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ATTORNEY DOCKET NO. NANF.P-008
PATENT APPLICATION
March 13, 2003

IN THE INTERNATIONAL RECEIVING OFFICE

Applicant : Makowski
Serial No. : 10/080,608
Filing Date : 02/21/02
Title : Staged Assembly of Nanostructures

STATEMENT REGARDING SEQUENCE LISTING

Responding to a Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures mailed November 13, 2002, the Applicants submit a paper copy of the Sequence Listing and a diskette containing said Sequence Listing. Please insert the Sequence Listing in the appropriate location in the file. Applicants request a two month extension of time for providing such information and enclose a Patent Office Form 2038 authorizing the charge for a two month extension.

The undersigned hereby certifies that the enclosed paper copy of the Sequence Listing and the enclosed computer readable form have the same content.

DATE: March 13, 2003

Respectfully submitted,

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3/13/03
Date

Linda L. Orr
Linda L. Orr



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SEQUENCE LISTING

<110> Makowski, Lee
Hyman, Paul
Williams, Mark

<120> STAGED ASSEMBLY OF NANOSTRUCTURES

<130> 8471-010-999

<140> 10/080,608

<141> 2002-02-21

<160> 180

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 28

<212> PRT

<213> *Saccharomyces cerevisiae*

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<211> 28

<212> PRT

<213> Unknown

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<223> Probable variant of homo sapiens protein.

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<210> 3

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<212> PRT

<213> Unknown

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<223> Probable variant of homo sapiens protein.

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 <212> PRT
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<213> Unknown

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<213> Schizosaccharomyces pombe

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<211> 885

<212> PRT

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	770					775					780						
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Ala	Gly	Thr	Gln	Arg	Pro	Lys	Asn	Leu	Met	Gln	Thr	Leu	Met	Glu	Asp		
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<212> PRT

<213> Homo sapiens

<400> 11

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Arg	Thr	Leu	His	Ser	Gly	Glu	Ile	Thr	Ser	His	Glu	Gln	Gly	Phe	Ser
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Ala	Gly	Lys	Gln	His	Glu	Ile	Glu	Glu	Leu	Asn	Arg	Glu	Leu	Glu	Glu
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Gln	Lys	Glu	Ile	Glu	Ile	Leu	Arg	Gln	Glu	Glu	Lys	Glu	Lys	Gly	Thr
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Ala	Glu	Lys	Asn	Phe	Glu	Val	Asn	Tyr	Gln	Glu	Leu	Gln	Glu	Glu	Tyr	
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Gln	Glu	Leu	Glu	Tyr	Lys	Ser	Lys	Leu	Lys	Ala	Leu	Asn	Glu	Glu	Leu	
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Val	Val	Glu	Lys	Asp	Thr	Thr	Glu	Leu	Met	Glu	Lys	Leu	Glu	Val	Thr	
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Lys	Ser	Leu	Lys	Gln	Glu	Lys	Glu	Gln	Val	Ser	Leu	Arg	Cys	Arg	Glu	
		995					1000					1005				
Leu	Glu	Ile	Ile	Ile	Asn	His	Asn	Arg	Ala	Glu	Asn	Val	Gln	Ser	Cys	
	1010					1015					1020					
Asp	Thr	Gln	Val	Ser	Ser	Leu	Leu	Asp	Gly	Val	Val	Thr	Met	Thr	Ser	
1025					1030					1035					1040	
Arg	Gly	Ala	Glu	Gly	Ser	Val	Ser	Lys	Val	Asn	Lys	Ser	Phe	Gly	Glu	
			1045						1050					1055		
Glu	Ser	Lys	Ile	Met	Val	Glu	Asp	Lys	Val	Ser	Phe	Glu	Asn	Met	Thr	
		1060						1065					1070			
Val	Gly	Glu	Glu	Ser	Lys	Gln	Glu	Gln	Leu	Ile	Leu	Asp	His	Leu	Pro	
	1075						1080					1085				
Ser	Val	Thr	Lys	Glu	Ser	Ser	Leu	Arg	Ala	Thr	Gln	Pro	Ser	Glu	Asn	
	1090					1095					1100					
Asp	Lys	Leu	Gln	Lys	Glu	Leu	Asn	Val	Leu	Lys	Ser	Glu	Gln	Asn	Asp	
1105				1110						1115					1120	
Leu	Arg	Leu	Gln	Met	Glu	Ala	Gln	Arg	Ile	Cys	Leu	Ser	Leu	Val	Tyr	
			1125					1130						1135		
Ser	Thr	His	Val	Asp	Gln	Val	Arg	Glu	Tyr	Met	Glu	Asn	Glu	Lys	Asp	
		1140						1145					1150			
Lys	Ala	Leu	Cys	Ser	Leu	Lys	Glu	Glu	Leu	Ile	Phe	Ala	Gln	Glu	Glu	
	1155						1160					1165				
Lys	Ile	Lys	Glu	Leu	Gln	Lys	Ile	His	Gln	Leu	Glu	Leu	Gln	Thr	Met	
	1170					1175					1180					
Lys	Thr	Gln	Glu	Thr	Gly	Asp	Glu	Gly	Lys	Pro	Leu	His	Leu	Leu	Ile	
1185					1190					1195					1200	
Gly	Lys	Leu	Gln	Lys	Ala	Val	Ser	Glu	Glu	Cys	Ser	Tyr	Phe	Leu	Gln	
			1205						1210					1215		
Thr	Leu	Cys	Ser	Val	Leu	Gly	Glu	Tyr	Tyr	Thr	Pro	Ala	Leu	Lys	Cys	
		1220						1225					1230			

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Glu Val Asn Ala Glu Asp Lys Glu Asn Ser Gly Asp Tyr Ile Ser Glu
 1235 1240 1245
 Asn Glu Asp Pro Glu Leu Gln Asp Tyr Arg Tyr Glu Val Gln Asp Phe
 1250 1255 1260
 Gln Glu Asn Met His Thr Leu Leu Asn Lys Val Thr Glu Glu Tyr Asn
 1265 1270 1275 1280
 Lys Leu Leu Val Leu Gln Thr Arg Leu Ser Lys Ile Trp Gly Gln Gln
 1285 1290 1295
 Thr Asp Gly Met Lys Leu Glu Phe Gly Glu Glu Asn Leu Pro Lys Glu
 1300 1305 1310
 Glu Thr Glu Phe Leu Ser Ile His Ser Gln Met Thr Asn Leu Glu Asp
 1315 1320 1325
 Ile Asp Val Asn His Lys Ser Lys Leu Ser Ser Leu Gln Asp Leu Glu
 1330 1335 1340
 Lys Thr Lys Leu Glu Glu Gln Val Gln Glu Leu Glu Ser Leu Ile Ser
 1345 1350 1355 1360
 Ser Leu Gln Gln Gln Leu Lys Glu Thr Glu Gln Asn Tyr Glu Ala Glu
 1365 1370 1375
 Ile His Cys Leu Gln Lys Arg Leu Gln Ala Val Ser Glu Ser Thr Val
 1380 1385 1390
 Pro Pro Ser Leu Pro Val Asp Ser Val Val Ile Thr Glu Ser Asp Ala
 1395 1400 1405
 Gln Arg Thr Met Tyr Pro Gly Ser Cys Val Lys Lys Asn Ile Asp Gly
 1410 1415 1420
 Thr Ile Glu Phe Ser Gly Glu Phe Gly Val Lys Glu Glu Thr Asn Ile
 1425 1430 1435 1440
 Val Lys Leu Leu Glu Lys Gln Tyr Gln Glu Gln Leu Glu Glu Glu Val
 1445 1450 1455
 Ala Lys Val Ile Val Ser Met Ser Ile Ala Phe Ala Gln Gln Thr Glu
 1460 1465 1470
 Leu Ser Arg Ile Ser Gly Gly Lys Glu Asn Thr Ala Ser Ser Lys Gln
 1475 1480 1485
 Ala His Ala Val Cys Gln Gln Glu Gln His Tyr Phe Asn Glu Met Lys
 1490 1495 1500
 Leu Ser Gln Asp Gln Ile Gly Phe Gln Thr Phe Glu Thr Val Asp Val
 1505 1510 1515 1520
 Lys Phe Lys Glu Glu Phe Lys Pro Leu Ser Lys Glu Leu Gly Glu His
 1525 1530 1535
 Gly Lys Glu Ile Leu Leu Ser Asn Ser Asp Pro His Asp Ile Pro Glu
 1540 1545 1550
 Ser Lys Asp Cys Val Leu Thr Ile Ser Glu Glu Met Phe Ser Lys Asp
 1555 1560 1565
 Lys Thr Phe Ile Val Arg Gln Ser Ile His Asp Glu Ile Ser Val Ser
 1570 1575 1580
 Ser Met Asp Ala Ser Arg Gln Leu Met Leu Asn Glu Glu Gln Leu Glu
 1585 1590 1595 1600
 Asp Met Arg Gln Glu Leu Val Arg Gln Tyr Gln Glu His Gln Gln Ala
 1605 1610 1615
 Thr Gln Arg Ser Ser Ile Asp Asn Glu Asn Leu Val Ser Glu Arg Glu
 1620 1625 1630
 Arg Val Leu Leu Glu Glu Leu Glu Ala Leu Lys Gln Leu Ser Leu Ala
 1635 1640 1645
 Gly Arg Glu Lys Leu Cys Cys Glu Leu Arg Asn Ser Ser Thr Gln Thr

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1650		1655		1660	
Gln Asn Gly Asn Glu Asn Gln Gly Glu Val Glu Glu Gln Thr Phe Lys					
1665		1670		1675	1680
Glu Lys Glu Leu Asp Arg Lys Pro Glu Asp Val Pro Pro Glu Ile Leu					
	1685		1690		1695
Ser Asn Glu Arg Tyr Ala Leu Gln Lys Ala Asn Asn Arg Leu Leu Lys					
	1700		1705		1710
Ile Leu Leu Glu Val Val Lys Thr Thr Ala Ala Val Glu Glu Thr Ile					
	1715		1720		1725
Gly Arg His Val Leu Gly Ile Leu Asp Arg Ser Ser Lys Ser Gln Ser					
	1730		1735		1740
Ser Ala Ser Leu Ile Trp Arg Ser Glu Ala Glu Ala Ser Val Lys Ser					
1745		1750		1755	1760
Cys Val His Glu Glu His Thr Arg Val Thr Asp Glu Ser Ile Pro Ser					
	1765		1770		1775
Tyr Ser Gly Ser Asp Met Pro Arg Asn Asp Ile Asn Met Trp Ser Lys					
	1780		1785		1790
Val Thr Glu Glu Gly Thr Glu Leu Ser Gln Arg Leu Val Arg Ser Gly					
	1795		1800		1805
Phe Ala Gly Thr Glu Ile Asp Pro Glu Asn Glu Glu Leu Met Leu Asn					
	1810		1815		1820
Ile Ser Ser Arg Leu Gln Ala Ala Val Glu Lys Leu Leu Glu Ala Ile					
1825		1830		1835	1840
Ser Glu Thr Ser Ser Gln Leu Glu His Ala Lys Val Thr Gln Thr Glu					
	1845		1850		1855
Leu Met Arg Glu Ser Phe Arg Gln Lys Gln Glu Ala Thr Glu Ser Leu					
	1860		1865		1870
Lys Cys Gln Glu Glu Leu Arg Glu Arg Leu His Glu Glu Ser Arg Ala					
	1875		1880		1885
Arg Glu Gln Leu Ala Val Glu Leu Ser Lys Ala Glu Gly Val Ile Asp					
	1890		1895		1900
Gly Tyr Ala Asp Glu Lys Thr Leu Phe Glu Arg Gln Ile Gln Glu Lys					
1905		1910		1915	1920
Thr Asp Ile Ile Asp Arg Leu Glu Gln Glu Leu Leu Cys Ala Ser Asn					
	1925		1930		1935
Arg Leu Gln Glu Leu Glu Ala Glu Gln Gln Gln Ile Gln Glu Glu Arg					
	1940		1945		1950
Glu Leu Leu Ser Arg Gln Lys Glu Ala Met Lys Ala Glu Ala Gly Pro					
	1955		1960		1965
Val Glu Gln Gln Leu Leu Gln Glu Thr Glu Lys Leu Met Lys Glu Lys					
	1970		1975		1980
Leu Glu Val Gln Cys Gln Ala Glu Lys Val Arg Asp Asp Leu Gln Lys					
1985		1990		1995	2000
Gln Val Lys Ala Leu Glu Ile Asp Val Glu Glu Gln Val Ser Arg Phe					
	2005		2010		2015
Ile Glu Leu Glu Gln Glu Lys Asn Thr Glu Leu Met Asp Leu Arg Gln					
	2020		2025		2030
Gln Asn Gln Ala Leu Glu Lys Gln Leu Glu Lys Met Arg Lys Phe Leu					
	2035		2040		2045
Asp Glu Gln Ala Ile Asp Arg Glu His Glu Arg Asp Val Phe Gln Gln					
	2050		2055		2060
Glu Ile Gln Lys Leu Glu Gln Gln Leu Lys Val Val Pro Arg Phe Gln					
2065		2070		2075	2080

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Pro Ile Ser Glu His Gln Thr Arg Glu Val Glu Gln Leu Ala Asn His
 2085 2090 2095
 Leu Lys Glu Lys Thr Asp Lys Cys Ser Glu Leu Leu Leu Ser Lys Glu
 2100 2105 2110
 Gln Leu Gln Arg Asp Ile Gln Glu Arg Asn Glu Glu Ile Glu Lys Leu
 2115 2120 2125
 Glu Phe Arg Val Arg Glu Leu Glu Gln Ala Leu Leu Val Ser Ala Asp
 2130 2135 2140
 Thr Phe Gln Lys Val Glu Asp Arg Lys His Phe Gly Ala Val Glu Ala
 2145 2150 2155 2160
 Lys Pro Glu Leu Ser Leu Glu Val Gln Leu Gln Ala Glu Arg Asp Ala
 2165 2170 2175
 Ile Asp Arg Lys Glu Lys Glu Ile Thr Asn Leu Glu Glu Gln Leu Glu
 2180 2185 2190
 Gln Phe Arg Glu Glu Leu Glu Asn Lys Asn Glu Glu Val Gln Gln Leu
 2195 2200 2205
 His Met Gln Leu Glu Ile Gln Lys Lys Glu Ser Thr Thr Arg Leu Gln
 2210 2215 2220
 Glu Leu Glu Gln Glu Asn Lys Leu Phe Lys Asp Asp Met Glu Lys Leu
 2225 2230 2235 2240
 Gly Leu Ala Ile Lys Glu Ser Asp Ala Met Ser Thr Gln Asp Gln His
 2245 2250 2255
 Val Leu Phe Gly Lys Phe Ala Gln Ile Ile Gln Glu Lys Glu Val Glu
 2260 2265 2270
 Ile Asp Gln Leu Asn Glu Gln Val Thr Lys Leu Gln Gln Gln Leu Lys
 2275 2280 2285
 Ile Thr Thr Asp Asn Lys Val Ile Glu Glu Lys Asn Glu Leu Ile Arg
 2290 2295 2300
 Asp Leu Glu Thr Gln Ile Glu Cys Leu Met Ser Asp Gln Glu Cys Val
 2305 2310 2315 2320
 Lys Arg Asn Arg Glu Glu Glu Ile Glu Gln Leu Asn Glu Val Ile Glu
 2325 2330 2335
 Lys Leu Gln Gln Glu Leu Ala Asn Ile Gly Gln Lys Thr Ser Met Asn
 2340 2345 2350
 Ala His Ser Leu Ser Glu Glu Ala Asp Ser Leu Lys His Gln Leu Asp
 2355 2360 2365
 Val Val Ile Ala Glu Lys Leu Ala Leu Glu Gln Gln Val Glu Thr Ala
 2370 2375 2380
 Asn Glu Glu Met Thr Phe Met Lys Asn Val Leu Lys Glu Thr Asn Phe
 2385 2390 2395 2400
 Lys Met Asn Gln Leu Thr Gln Glu Leu Phe Ser Leu Lys Arg Glu Arg
 2405 2410 2415
 Glu Ser Val Glu Lys Ile Gln Ser Ile Pro Glu Asn Ser Val Asn Val
 2420 2425 2430
 Ala Ile Asp His Leu Ser Lys Asp Lys Pro Glu Leu Glu Val Val Leu
 2435 2440 2445
 Thr Glu Asp Ala Leu Lys Ser Leu Glu Asn Gln Thr Tyr Phe Lys Ser
 2450 2455 2460
 Phe Glu Glu Asn Gly Lys Gly Ser Ile Ile Asn Leu Glu Thr Arg Leu
 2465 2470 2475 2480
 Leu Gln Leu Glu Ser Thr Val Ser Ala Lys Asp Leu Glu Leu Thr Gln
 2485 2490 2495
 Cys Tyr Lys Gln Ile Lys Asp Met Gln Glu Gln Gly Gln Phe Glu Thr

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2500					2505					2510					
Glu	Met	Leu	Gln	Lys	Lys	Ile	Val	Asn	Leu	Gln	Lys	Ile	Val	Glu	Glu
2515					2520					2525					
Lys	Val	Ala	Ala	Ala	Leu	Val	Ser	Gln	Ile	Gln	Leu	Glu	Ala	Val	Gln
2530					2535					2540					
Glu	Tyr	Ala	Lys	Phe	Cys	Gln	Asp	Asn	Gln	Thr	Ile	Ser	Ser	Glu	Pro
2545	2550					2555					2560				
Glu	Arg	Thr	Asn	Ile	Gln	Asn	Leu	Asn	Gln	Leu	Arg	Glu	Asp	Glu	Leu
2565					2570					2575					
Gly	Ser	Asp	Ile	Ser	Ala	Leu	Thr	Leu	Arg	Ile	Ser	Glu	Leu	Glu	Ser
2580					2585					2590					
Gln	Val	Val	Glu	Met	His	Thr	Ser	Leu	Ile	Leu	Glu	Lys	Glu	Gln	Val
2595					2600					2605					
Glu	Ile	Ala	Glu	Lys	Asn	Val	Leu	Glu	Lys	Glu	Lys	Lys	Leu	Leu	Glu
2610					2615					2620					
Leu	Gln	Lys	Leu	Leu	Glu	Gly	Asn	Glu	Lys	Lys	Gln	Arg	Glu	Lys	Glu
2625	2630					2635					2640				
Lys	Lys	Arg	Ser	Pro	Gln	Asp	Val	Glu	Val	Leu	Lys	Thr	Thr	Thr	Glu
2645					2650					2655					
Leu	Phe	His	Ser	Asn	Glu	Glu	Ser	Gly	Phe	Phe	Asn	Glu	Leu	Glu	Ala
2660					2665					2670					
Leu	Arg	Ala	Glu	Ser	Val	Ala	Thr	Lys	Ala	Glu	Leu	Ala	Ser	Tyr	Lys
2675					2680					2685					
Glu	Lys	Ala	Glu	Lys	Leu	Gln	Glu	Glu	Leu	Leu	Val	Lys	Glu	Thr	Asn
2690					2695					2700					
Met	Thr	Ser	Leu	Gln	Lys	Asp	Leu	Ser	Gln	Val	Arg	Asp	His	Leu	Ala
2705	2710					2715					2720				
Glu	Ala	Lys	Glu	Lys	Leu	Ser	Ile	Leu	Glu	Lys	Glu	Asp	Glu	Thr	Glu
2725					2730					2735					
Val	Gln	Glu	Ser	Lys	Lys	Ala	Cys	Met	Phe	Glu	Pro	Leu	Pro	Ile	Lys
2740					2745					2750					
Leu	Ser	Lys	Ser	Ile	Ala	Ser	Gln	Thr	Asp	Gly	Thr	Leu	Lys	Ile	Ser
2755					2760					2765					
Ser	Ser	Asn	Gln	Thr	Pro	Gln	Ile	Leu	Val	Lys	Asn	Ala	Gly	Ile	Gln
2770					2775					2780					
Ile	Asn	Leu	Gln	Ser	Glu	Cys	Ser	Ser	Glu	Glu	Val	Thr	Glu	Ile	Ile
2785	2790					2795					2800				
Ser	Gln	Phe	Thr	Glu	Lys	Ile	Glu	Lys	Met	Gln	Glu	Leu	His	Ala	Ala
2805					2810					2815					
Glu	Ile	Leu	Asp	Met	Glu	Ser	Arg	His	Ile	Ser	Glu	Thr	Glu	Thr	Leu
2820					2825					2830					
Lys	Arg	Glu	His	Tyr	Val	Ala	Val	Gln	Leu	Leu	Lys	Glu	Glu	Cys	Gly
2835					2840					2845					
Thr	Leu	Lys	Ala	Val	Ile	Gln	Cys	Leu	Arg	Ser	Lys	Glu	Val	Phe	Gly
2850					2855					2860					
Phe	Tyr	Asn	Met	Cys	Phe	Ser	Thr	Leu	Cys	Asp	Ser	Gly	Ser	Asp	Trp
2865	2870					2875					2880				
Gly	Gln	Gly	Ile	Tyr	Leu	Thr	His	Ser	Gln	Gly	Phe	Asp	Ile	Ala	Ser
2885					2890					2895					
Glu	Gly	Arg	Gly	Glu	Glu	Ser	Glu	Ser	Ala	Thr	Asp	Ser	Phe	Pro	Lys
2900					2905					2910					
Lys	Ile	Lys	Gly	Leu	Leu	Arg	Ala	Val	His	Asn	Glu	Gly	Met	Gln	Val
2915					2920					2925					

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Leu Ser Leu Thr Glu Ser Pro Tyr Ser Asp Gly Glu Asp His Ser Ile
 2930 2935 2940
 Gln Gln Val Ser Glu Pro Trp Leu Glu Glu Arg Lys Ala Tyr Ile Asn
 2945 2950 2955 2960
 Thr Ile Ser Ser Leu Lys Asp Leu Ile Thr Lys Met Gln Leu Gln Arg
 2965 2970 2975
 Glu Ala Glu Val Tyr Asp Ser Ser Gln Ser His Glu Ser Phe Ser Asp
 2980 2985 2990
 Trp Arg Gly Glu Leu Leu Leu Ala Leu Gln Gln Val Phe Leu Glu Glu
 2995 3000 3005
 Arg Ser Val Leu Leu Ala Ala Phe Arg Thr Glu Leu Thr Ala Leu Gly
 3010 3015 3020
 Thr Thr Asp Ala Val Gly Leu Leu Asn Cys Leu Glu Gln Arg Ile Gln
 3025 3030 3035 3040
 Glu Gln Gly Val Glu Tyr Gln Ala Ala Met Glu Cys Leu Gln Lys Ala
 3045 3050 3055
 Asp Arg Arg Ser Leu Leu Ser Glu Ile Gln Ala Leu His Ala Gln Met
 3060 3065 3070
 Asn Gly Arg Lys Ile Thr Leu Lys Arg Glu Gln Glu Ser Glu Lys Pro
 3075 3080 3085
 Ser Gln Glu Leu Leu Glu Tyr Asn Ile Gln Gln Lys Gln Ser Gln Met
 3090 3095 3100
 Leu Glu Met Gln Val Glu Leu Ser Ser Met Lys Asp Arg Ala Thr Glu
 3105 3110 3115 3120
 Leu Gln Glu Gln Leu Ser Ser Glu Lys Met Val Val Ala Glu Leu Lys
 3125 3130 3135
 Ser Glu Leu Ala Gln Thr Lys Leu Glu Leu Glu Thr Thr Leu Lys Ala
 3140 3145 3150
 Gln His Lys His Leu Lys Glu Leu Glu Ala Phe Arg Leu Glu Val Lys
 3155 3160 3165
 Asp Lys Thr Asp Glu Val His Leu Leu Asn Asp Thr Leu Ala Ser Glu
 3170 3175 3180
 Gln Lys Lys Ser Arg Glu Leu Gln Trp Ala Leu Glu Lys Glu Lys Ala
 3185 3190 3195 3200
 Lys Leu Gly Arg Ser Glu Glu Arg Asp Lys Glu Glu Leu Glu Asp Leu
 3205 3210 3215
 Lys Phe Ser Leu Glu Ser Gln Lys Gln Arg Asn Leu Gln Leu Asn Leu
 3220 3225 3230
 Leu Leu Glu Gln Gln Lys Gln Leu Leu Asn Glu Ser Gln Gln Lys Ile
 3235 3240 3245
 Glu Ser Gln Arg Met Leu Tyr Asp Ala Gln Leu Ser Glu Glu Gln Gly
 3250 3255 3260
 Arg Asn Leu Glu Leu Gln Val Leu Leu Glu Ser Glu Lys Val Arg Ile
 3265 3270 3275 3280
 Arg Glu Met Ser Ser Thr Leu Asp Arg Glu Arg Glu Leu His Ala Gln
 3285 3290 3295
 Leu Gln Ser Ser Asp Gly Thr Gly Gln Ser Arg Pro Pro Leu Pro Ser
 3300 3305 3310
 Glu Asp Leu Leu Lys Glu Leu Gln Lys Gln Leu Glu Glu Lys His Ser
 3315 3320 3325
 Arg Ile Val Glu Leu Leu Asn Glu Thr Glu Lys Tyr Lys Leu Asp Ser
 3330 3335 3340
 Leu Gln Thr Arg Gln Gln Met Glu Lys Asp Arg Gln Val His Arg Lys

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3345		3350		3355		3360									
Thr	Leu	Gln	Thr	Glu	Gln	Glu	Ala	Asn	Thr	Glu	Gly	Gln	Lys	Lys	Met
				3365					3370						3375
His	Glu	Leu	Gln	Ser	Lys	Val	Glu	Asp	Leu	Gln	Arg	Gln	Leu	Glu	Glu
			3380					3385					3390		
Lys	Arg	Gln	Gln	Val	Tyr	Lys	Leu	Asp	Leu	Glu	Gly	Gln	Arg	Leu	Gln
		3395					3400					3405			
Gly	Ile	Met	Gln	Glu	Phe	Gln	Lys	Gln	Glu	Leu	Glu	Arg	Glu	Glu	Lys
	3410					3415					3420				
Arg	Glu	Ser	Arg	Arg	Ile	Leu	Tyr	Gln	Asn	Leu	Asn	Glu	Pro	Thr	Thr
3425					3430					3435					3440
Trp	Ser	Leu	Thr	Ser	Asp	Arg	Thr	Arg	Asn	Trp	Val	Leu	Gln	Gln	Lys
				3445					3450					3455	
Ile	Glu	Gly	Glu	Thr	Lys	Glu	Ser	Asn	Tyr	Ala	Lys	Leu	Ile	Glu	Met
			3460					3465					3470		
Asn	Gly	Gly	Gly	Thr	Gly	Cys	Asn	His	Glu	Leu	Glu	Met	Ile	Arg	Gln
		3475					3480					3485			
Lys	Leu	Gln	Cys	Val	Ala	Ser	Lys	Leu	Gln	Val	Leu	Pro	Gln	Lys	Ala
	3490					3495					3500				
Ser	Glu	Arg	Leu	Gln	Phe	Glu	Thr	Ala	Asp	Asp	Glu	Asp	Phe	Ile	Trp
3505					3510				3515						3520
Val	Gln	Glu	Asn	Ile	Asp	Glu	Ile	Ile	Leu	Gln	Leu	Gln	Lys	Leu	Thr
				3525					3530					3535	
Gly	Gln	Gln	Gly	Glu	Glu	Pro	Ser	Leu	Val	Ser	Pro	Ser	Thr	Ser	Cys
			3540					3545					3550		
Gly	Ser	Leu	Thr	Glu	Arg	Leu	Leu	Arg	Gln	Asn	Ala	Glu	Leu	Thr	Gly
		3555					3560					3565			
His	Ile	Ser	Gln	Leu	Thr	Glu	Glu	Lys	Asn	Asp	Leu	Arg	Asn	Met	Val
	3570					3575					3580				
Met	Lys	Leu	Glu	Glu	Gln	Ile	Arg	Trp	Tyr	Arg	Gln	Thr	Gly	Ala	Gly
3585					3590				3595						3600
Arg	Asp	Asn	Ser	Ser	Arg	Phe	Ser	Leu	Asn	Gly	Gly	Ala	Asn	Ile	Glu
				3605					3610					3615	
Ala	Ile	Ile	Ala	Ser	Glu	Lys	Glu	Val	Trp	Asn	Arg	Glu	Lys	Leu	Thr
			3620					3625					3630		
Leu	Gln	Lys	Ser	Leu	Lys	Arg	Ala	Glu	Ala	Glu	Val	Tyr	Lys	Leu	Lys
		3635					3640					3645			
Ala	Glu	Leu	Arg	Asn	Asp	Ser	Leu	Leu	Gln	Thr	Leu	Ser	Pro	Asp	Ser
	3650					3655					3660				
Glu	His	Val	Thr	Leu	Lys	Arg	Ile	Tyr	Gly	Lys	Tyr	Leu	Arg	Ala	Glu
3665					3670				3675						3680
Ser	Phe	Arg	Lys	Ala	Leu	Ile	Tyr	Gln	Lys	Lys	Tyr	Leu	Leu	Leu	Leu
				3685					3690					3695	
Leu	Gly	Gly	Phe	Gln	Glu	Cys	Glu	Asp	Ala	Thr	Leu	Ala	Leu	Leu	Ala
			3700					3705					3710		
Arg	Met	Gly	Gly	Gln	Pro	Ala	Phe	Thr	Asp	Leu	Glu	Val	Ile	Thr	Asn
		3715					3720					3725			
Arg	Pro	Lys	Gly	Phe	Thr	Arg	Phe	Arg	Ser	Ala	Val	Arg	Val	Ser	Ile
	3730					3735					3740				
Ala	Ile	Ser	Arg	Met	Lys	Phe	Leu	Val	Arg	Arg	Trp	His	Arg	Val	Thr
3745					3750				3755						3760
Gly	Ser	Val	Ser	Ile	Asn	Ile	Asn	Arg	Asp	Gly	Phe	Gly	Leu	Asn	Gln
				3765					3770					3775	

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Gly Ala Glu Lys Thr Asp Ser Phe Tyr His Ser Ser Gly Gly Leu Glu
 3780 3785 3790
 Leu Tyr Gly Glu Pro Arg His Thr Thr Tyr Arg Ser Arg Ser Asp Leu
 3795 3800 3805
 Asp Tyr Ile Arg Ser Pro Leu Pro Phe Gln Asn Arg Tyr Pro Gly Thr
 3810 3815 3820
 Pro Ala Asp Phe Asn Pro Gly Ser Leu Ala Cys Ser Gln Leu Gln Asn
 3825 3830 3835 3840
 Tyr Asp Pro Asp Arg Ala Leu Thr Asp Tyr Ile Thr Arg Leu Glu Ala
 3845 3850 3855
 Leu Gln Arg Arg Leu Gly Thr Ile Gln Ser Gly Ser Thr Thr Gln Phe
 3860 3865 3870
 His Ala Gly Met Arg Arg
 3875

<210> 12

<211> 1087

<212> PRT

<213> Oryctolagus cuniculus

<400> 12

Arg Glu Lys Leu Glu Val Gln Cys Gln Ala Glu Lys Val Arg Asp Asp
 1 5 10 15
 Leu Gln Lys Gln Val Lys Ala Leu Glu Ile Asp Val Glu Glu Gln Val
 20 25 30
 Cys Arg Phe Ile Glu Leu Glu Gln Glu Lys Asn Ala Glu Leu Met Asp
 35 40 45
 Leu Arg Gln Gln Asn Gln Ala Leu Glu Lys Gln Leu Glu Lys Met Arg
 50 55 60
 Lys Met Asp Leu Arg Gln Gln Asn Gln Ala Leu Glu Lys Gln Leu Glu
 65 70 75 80
 Lys Met Arg Lys Phe Leu Asp Glu Gln Ala Ile Asp Arg Glu His Glu
 85 90 95
 Arg Asp Val Phe Gln Gln Glu Ile Gln Lys Leu Glu Gln Gln Leu Lys
 100 105 110
 Leu Val Pro Arg Phe Gln Pro Ile Ser Glu His Gln Thr Arg Glu Val
 115 120 125
 Glu Gln Leu Thr Asn His Leu Lys Glu Lys Thr Asp Lys Cys Ser Glu
 130 135 140
 Leu Leu Leu Ser Lys Glu Gln Leu Gln Arg Asp Val Gln Glu Arg Asn
 145 150 155 160
 Glu Glu Ile Glu Lys Leu Glu Cys Arg Val Arg Glu Leu Glu Gln Ala
 165 170 175
 Leu Leu Ser Val Gln Thr Leu Ser Lys Arg Trp Arg Thr Arg Asn Ser
 180 185 190
 Phe Gly Ala Val Glu Pro Lys Ala Glu Leu Cys Leu Glu Val Gln Leu
 195 200 205
 Gln Ala Glu Arg Asp Ala Ile Asp Arg Lys Glu Lys Glu Ile Thr Asn
 210 215 220
 Leu Glu Glu Gln Leu Glu Gln Phe Arg Glu Glu Leu Glu Asn Lys Asn
 225 230 235 240
 Glu Glu Val Gln Gln Leu His Met Gln Leu Glu Ile Gln Lys Lys Glu
 245 250 255

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Ser	Thr	Thr	Arg	Leu	Gln	Glu	Leu	Glu	Gln	Glu	Asn	Lys	Leu	Phe	Lys
			260					265					270		
Asp	Glu	Met	Glu	Lys	Leu	Gly	Phe	Ala	Ile	Lys	Glu	Ser	Asp	Ala	Val
		275					280					285			
Ser	Pro	Gln	Asp	Gln	Gln	Val	Leu	Phe	Gly	Lys	Phe	Ala	Gln	Ile	Ile
	290					295					300				
His	Glu	Lys	Glu	Val	Glu	Ile	Asp	Arg	Leu	Asn	Glu	Gln	Ile	Ile	Lys
305					310					315					320
Leu	Gln	Gln	Gln	Leu	Lys	Ile	Thr	Thr	Asp	Asn	Lys	Val	Ile	Glu	Glu
				325					330					335	
Lys	Asn	Glu	Leu	Ile	Arg	Asp	Leu	Glu	Ala	Gln	Ile	Glu	Cys	Leu	Met
			340					345					350		
Ser	Asp	Gln	Glu	Arg	Val	Arg	Lys	Asn	Arg	Glu	Glu	Glu	Ile	Glu	Gln
		355					360					365			
Leu	Asn	Glu	Val	Ile	Glu	Lys	Leu	Gln	Gln	Glu	Leu	Ala	Asn	Ile	Asp
	370					375					380				
Gln	Lys	Thr	Ser	Val	Asp	Pro	Ser	Ser	Leu	Ser	Glu	Glu	Ala	Asp	Ser
385					390					395					400
Leu	Lys	His	Gln	Leu	Asp	Lys	Val	Ile	Ala	Glu	Lys	Leu	Ala	Leu	Glu
				405					410					415	
His	Gln	Val	Glu	Thr	Thr	Asn	Glu	Glu	Met	Ala	Val	Thr	Lys	Asn	Val
			420						425				430		
Leu	Lys	Glu	Thr	Asn	Phe	Lys	Met	Asn	Gln	Leu	Thr	Gln	Glu	Leu	Cys
		435					440					445			
Ser	Leu	Lys	Arg	Glu	Arg	Glu	Lys	Met	Glu	Arg	Ile	Gln	Ser	Val	Pro
	450					455						460			
Glu	Lys	Ser	Val	Asn	Met	Ser	Val	Gly	Asp	Leu	Ser	Lys	Asp	Lys	Pro
465					470					475					480
Glu	Met	Asp	Leu	Ile	Pro	Thr	Glu	Asp	Ala	Leu	Ala	Gln	Leu	Glu	Thr
				485					490					495	
Gln	Thr	Gln	Leu	Arg	Ser	Ser	Glu	Glu	Ser	Ser	Lys	Val	Ser	Leu	Ser
			500					505					510		
Ser	Leu	Glu	Thr	Lys	Leu	Leu	Gln	Leu	Glu	Ser	Thr	Val	Ser	Thr	Lys
		515					520					525			
Asp	Leu	Glu	Leu	Thr	Gln	Cys	Tyr	Lys	Gln	Ile	Gln	Asp	Met	Arg	Glu
	530					535					540				
Gln	Gly	Arg	Ser	Glu	Thr	Glu	Met	Leu	Gln	Thr	Lys	Ile	Val	Ser	Leu
545					550					555					560
Gln	Lys	Val	Leu	Glu	Glu	Lys	Val	Ala	Ala	Ala	Leu	Val	Ser	Gln	Val
				565					570					575	
Gln	Leu	Glu	Ala	Val	Gln	Glu	Tyr	Val	Lys	Leu	Cys	Ala	Asp	Lys	Pro
			580					585					590		
Ala	Val	Ser	Ser	Asp	Pro	Ala	Arg	Thr	Glu	Val	Pro	Gly	Leu	Ser	Gln
		595					600					605			
Leu	Ala	Gly	Asn	Thr	Met	Glu	Ser	Asp	Val	Ser	Ala	Leu	Thr	Trp	Arg
	610					615					620				
Ile	Ser	Glu	Leu	Glu	Ser	Gln	Leu	Val	Glu	Met	His	Ser	Ser	Leu	Ile
625					630					635					640
Ser	Glu	Lys	Glu	Gln	Val	Glu	Ile	Ala	Glu	Lys	Asn	Ala	Leu	Glu	Lys
				645					650					655	
Glu	Lys	Lys	Leu	Gln	Glu	Leu	Gln	Lys	Leu	Val	Gln	Asp	Ser	Glu	Thr
			660					665					670		
Lys	Gln	Arg	Glu	Arg	Glu	Arg	Gln	Ser	Arg	Leu	His	Gly	Asp	Leu	Gly

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675	680	685
Val Leu Glu Ser Thr Thr Ser	Glu Glu Ser Gly	Val Phe Gly Glu Leu
690	695	700
Glu Ala Leu Arg Ala Glu Ser	Ala Ala Pro Lys	Gly Glu Leu Ala Asn
705	710	715
Tyr Lys Glu Leu Ala Glu Lys	Leu Gln Glu Glu	Leu Leu Val Lys Glu
725	730	735
Thr Asn Met Ala Ser Leu Pro	Lys Glu Leu Ser	His Val Arg Asp Gln
740	745	750
Leu Thr Glu Ala Glu Asp Lys	Leu Ser His Phe	Ser Glu Lys Glu Asp
755	760	765
Lys Thr Glu Val Gln Glu His	Gly Thr Ile Cys	Ile Leu Glu Pro Cys
770	775	780
Pro Gly Gln Ile Gly Glu Ser	Phe Ala Ser Gln	Thr Glu Gly Ala Val
785	790	795
Gln Val Asn Ser His Thr Gln	Thr Pro Gln Ile	Pro Val Arg Ser Val
805	810	815
Gly Ile Gln Thr His Ser Gln	Ser Asp Ser Ser	Pro Glu Glu Val Ala
820	825	830
Glu Ile Ile Ser Arg Phe Thr	Glu Lys Ile Glu	Gln Met Arg Glu Leu
835	840	845
His Ala Ala Glu Ile Leu Asp	Met Glu Ser Arg	His Ile Ser Glu Thr
850	855	860
Glu Thr Leu Lys Arg Glu His	Cys Ile Ala Val	Gln Leu Leu Thr Glu
865	870	875
Glu Cys Ala Ser Leu Lys Ser	Leu Ile Gln Gly	Leu Arg Met Pro Glu
885	890	895
Gly Ser Ser Val Pro Glu Leu	Thr His Ser Asn	Ala Tyr Gln Thr Arg
900	905	910
Glu Val Gly Ser Ser Asp Ser	Gly Ser Asp Trp	Gly Gln Gly Ile Tyr
915	920	925
Leu Thr Gln Ser Gln Gly Phe	Asp Thr Ala Ser	Glu Ala Arg Gly Glu
930	935	940
Glu Gly Glu Thr Ser Thr Asp	Ser Phe Pro Lys	Lys Ile Lys Gly Leu
945	950	955
Leu Arg Ala Val His Asn Glu	Gly Met Gln Val	Leu Ser Leu Thr Glu
965	970	975
Gly Pro Cys Gly Asp Gly Glu	Asp Tyr Pro Gly	His Gln Leu Ser Glu
980	985	990
Ser Trp Leu Glu Glu Arg Arg	Ala Tyr Leu Ser	Thr Ile Ser Ser Leu
995	1000	1005
Lys Asp Phe Ile Thr Lys Met	Gln Val Gln Arg	Glu Val Glu Val Tyr
1010	1015	1020
Asp Ser Ser Gln Ser His Glu	Asn Ile Ser Asp	Trp Arg Gly Glu Leu
1025	1030	1035
Leu Leu Ala Leu Gln Gln Val	Phe Leu Arg Glu	Arg Ser Val Leu Leu
1045	1050	1055
Ala Ala Phe Lys Thr Glu Leu	Thr Ala Leu Gly	Thr Arg Asp Ala Ala
1060	1065	1070
Gly Leu Leu Asn Cys Leu Glu	Gln Arg Ile Pro	Arg Thr Glu Tyr
1075	1080	1085

<211> 503

<212> PRT

<213> *Drosophila melanogaster*

<400> 13

Met	Asp	Ser	Asp	Asn	Asp	Asn	Asp	Phe	Cys	Asp	Asn	Val	Asp	Ser	Gly	1	5	10	15
Asn	Val	Ser	Ser	Gly	Asp	Asp	Gly	Asp	Asp	Asp	Phe	Gly	Met	Glu	Val	20	25	30	
Asp	Leu	Pro	Ser	Ser	Ala	Asp	Arg	Gln	Met	Asp	Gln	Asp	Asp	Tyr	Gln	35	40	45	
Tyr	Lys	Val	Leu	Thr	Thr	Asp	Glu	Ile	Val	Gln	His	Gln	Arg	Glu	Ile	50	55	60	
Ile	Asp	Glu	Ala	Asn	Leu	Leu	Leu	Lys	Leu	Pro	Thr	Pro	Thr	Thr	Arg	65	70	75	80
Ile	Leu	Leu	Asn	His	Phe	Lys	Trp	Asp	Lys	Glu	Lys	Leu	Leu	Glu	Lys	85	90	95	
Tyr	Phe	Asp	Asp	Asn	Thr	Asp	Glu	Phe	Phe	Lys	Cys	Ala	His	Val	Ile	100	105	110	
Asn	Pro	Phe	Asn	Ala	Thr	Glu	Ala	Ile	Lys	Gln	Lys	Thr	Ser	Arg	Ser	115	120	125	
Gln	Cys	Glu	Glu	Cys	Glu	Ile	Cys	Phe	Ser	Gln	Leu	Pro	Pro	Asp	Ser	130	135	140	
Met	Ala	Gly	Leu	Glu	Cys	Gly	His	Arg	Phe	Cys	Met	Pro	Cys	Trp	His	145	150	155	160
Glu	Tyr	Leu	Ser	Thr	Lys	Ile	Val	Ala	Glu	Gly	Leu	Gly	Gln	Thr	Ile	165	170	175	
Ser	Cys	Ala	Ala	His	Gly	Cys	Asp	Ile	Leu	Val	Asp	Asp	Val	Thr	Val	180	185	190	
Ala	Asn	Leu	Val	Thr	Asp	Ala	Arg	Val	Arg	Val	Lys	Tyr	Gln	Gln	Leu	195	200	205	
Ile	Thr	Asn	Ser	Phe	Val	Glu	Cys	Asn	Gln	Leu	Leu	Arg	Trp	Cys	Pro	210	215	220	
Ser	Val	Asp	Cys	Thr	Tyr	Ala	Val	Lys	Val	Pro	Tyr	Ala	Glu	Pro	Arg	225	230	235	240
Arg	Val	His	Cys	Lys	Cys	Gly	His	Val	Phe	Cys	Phe	Ala	Cys	Gly	Glu	245	250	255	
Asn	Trp	His	Asp	Pro	Val	Lys	Cys	Arg	Trp	Leu	Lys	Lys	Trp	Ile	Lys	260	265	270	
Lys	Cys	Asp	Asp	Asp	Ser	Glu	Thr	Ser	Asn	Trp	Ile	Ala	Ala	Asn	Thr	275	280	285	
Lys	Glu	Cys	Pro	Arg	Cys	Ser	Val	Thr	Ile	Glu	Lys	Asp	Gly	Gly	Cys	290	295	300	
Asn	His	Met	Val	Cys	Lys	Asn	Gln	Asn	Cys	Lys	Asn	Glu	Phe	Cys	Trp	305	310	315	320
Val	Cys	Leu	Gly	Ser	Trp	Glu	Pro	His	Gly	Ser	Ser	Trp	Tyr	Asn	Cys	325	330	335	
Asn	Arg	Tyr	Asp	Glu	Asp	Glu	Ala	Lys	Thr	Ala	Arg	Asp	Ala	Gln	Glu	340	345	350	
Lys	Leu	Arg	Ser	Ser	Leu	Ala	Arg	Tyr	Leu	His	Tyr	Tyr	Asn	Arg	Tyr	355	360	365	
Met	Asn	His	Met	Gln	Ser	Met	Lys	Phe	Glu	Asn	Lys	Leu	Tyr	Ala	Ser	370	375	380	

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Val	Lys	Gln	Lys	Met	Glu	Glu	Met	Gln	Gln	His	Asn	Met	Ser	Trp	Ile
385					390					395					400
Glu	Val	Gln	Phe	Leu	Lys	Lys	Ala	Val	Asp	Ile	Leu	Cys	Gln	Cys	Arg
				405					410					415	
Gln	Thr	Leu	Met	Tyr	Thr	Tyr	Val	Phe	Ala	Tyr	Tyr	Leu	Lys	Lys	Asn
			420					425					430		
Asn	Gln	Ser	Met	Ile	Phe	Glu	Asp	Asn	Gln	Lys	Asp	Leu	Glu	Ser	Ala
		435					440					445			
Thr	Glu	Met	Leu	Ser	Glu	Tyr	Leu	Glu	Arg	Asp	Ile	Thr	Ser	Glu	Asn
	450					455					460				
Leu	Ala	Asp	Ile	Lys	Gln	Lys	Val	Gln	Asp	Lys	Tyr	Arg	Tyr	Cys	Glu
465					470					475					480
Lys	Arg	Cys	Ser	Val	Leu	Leu	Lys	His	Val	His	Glu	Gly	Tyr	Asp	Lys
			485						490					495	
Glu	Trp	Trp	Glu	Tyr	Thr	Glu									
			500												

<210> 14

<211> 961

<212> PRT

<213> Homo sapiens

<400> 14

Met	Leu	Leu	Leu	Leu	Leu	Leu	Ala	Pro	Leu	Phe	Leu	Arg	Pro	Pro	Gly
1				5					10					15	
Ala	Gly	Gly	Ala	Gln	Thr	Pro	Asn	Ala	Thr	Ser	Glu	Gly	Cys	Gln	Ile
			20					25					30		
Ile	His	Pro	Pro	Trp	Glu	Gly	Gly	Ile	Arg	Tyr	Arg	Gly	Leu	Thr	Arg
		35					40					45			
Asp	Gln	Val	Lys	Ala	Ile	Asn	Phe	Leu	Pro	Val	Asp	Tyr	Glu	Ile	Glu
	50					55					60				
Tyr	Val	Cys	Arg	Gly	Glu	Arg	Glu	Val	Val	Gly	Pro	Lys	Val	Arg	Lys
65					70					75					80
Cys	Leu	Ala	Asn	Gly	Ser	Trp	Thr	Asp	Met	Asp	Thr	Pro	Ser	Arg	Cys
			85						90					95	
Val	Arg	Ile	Cys	Ser	Lys	Ser	Tyr	Leu	Thr	Leu	Glu	Asn	Gly	Lys	Val
			100					105					110		
Phe	Leu	Thr	Gly	Gly	Asp	Leu	Pro	Ala	Leu	Asp	Gly	Ala	Arg	Val	Asp
		115					120					125			
Phe	Arg	Cys	Asp	Pro	Asp	Phe	His	Leu	Val	Gly	Ser	Ser	Arg	Ser	Ile
	130					135					140				
Cys	Ser	Gln	Gly	Gln	Trp	Ser	Thr	Pro	Lys	Pro	His	Cys	Gln	Val	Asn
145					150					155					160
Arg	Thr	Pro	His	Ser	Glu	Arg	Arg	Ala	Val	Tyr	Ile	Gly	Ala	Leu	Phe
			165						170					175	
Pro	Met	Ser	Gly	Gly	Trp	Pro	Gly	Gly	Gln	Ala	Cys	Gln	Pro	Ala	Val
			180					185					190		
Glu	Met	Ala	Leu	Glu	Asp	Val	Asn	Ser	Arg	Arg	Asp	Ile	Leu	Pro	Asp
		195					200					205			
Tyr	Glu	Leu	Lys	Leu	Ile	His	His	Asp	Ser	Lys	Cys	Asp	Pro	Gly	Gln
	210					215					220				
Ala	Thr	Lys	Tyr	Leu	Tyr	Glu	Leu	Leu	Tyr	Asn	Asp	Pro	Ile	Lys	Ile
225					230					235					240

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Ile	Leu	Met	Pro	Gly	Cys	Ser	Ser	Val	Ser	Thr	Leu	Val	Ala	Glu	Ala	
				245					250					255		
Ala	Arg	Met	Trp	Asn	Leu	Ile	Val	Leu	Ser	Tyr	Gly	Ser	Ser	Ser	Pro	
			260					265					270			
Ala	Leu	Ser	Asn	Arg	Gln	Arg	Phe	Pro	Thr	Phe	Phe	Arg	Thr	His	Pro	
		275					280					285				
Ser	Ala	Thr	Leu	His	Asn	Pro	Thr	Arg	Val	Lys	Leu	Phe	Glu	Lys	Trp	
	290					295					300					
Gly	Trp	Lys	Lys	Ile	Ala	Thr	Ile	Gln	Gln	Thr	Thr	Glu	Val	Phe	Thr	
305				310						315					320	
Ser	Thr	Leu	Asp	Asp	Leu	Glu	Glu	Arg	Val	Lys	Glu	Ala	Gly	Ile	Glu	
			325					330						335		
Ile	Thr	Phe	Arg	Gln	Ser	Phe	Phe	Ser	Asp	Pro	Ala	Val	Pro	Val	Lys	
			340					345					350			
Asn	Leu	Lys	Arg	Gln	Asp	Ala	Arg	Ile	Ile	Val	Gly	Leu	Phe	Tyr	Glu	
		355					360					365				
Thr	Glu	Ala	Arg	Lys	Val	Phe	Cys	Glu	Val	Tyr	Lys	Glu	Arg	Leu	Phe	
	370					375					380					
Gly	Lys	Lys	Tyr	Val	Trp	Phe	Leu	Ile	Gly	Trp	Tyr	Ala	Asp	Asn	Trp	
385				390						395					400	
Phe	Lys	Ile	Tyr	Asp	Pro	Ser	Ile	Asn	Cys	Thr	Val	Asp	Glu	Met	Thr	
			405					410						415		
Glu	Ala	Val	Glu	Gly	His	Ile	Thr	Thr	Glu	Ile	Val	Met	Leu	Asn	Pro	
			420					425					430			
Ala	Asn	Thr	Arg	Ser	Ile	Ser	Asn	Met	Thr	Ser	Gln	Glu	Phe	Val	Glu	
		435					440					445				
Lys	Leu	Thr	Lys	Arg	Leu	Lys	Arg	His	Pro	Glu	Glu	Thr	Gly	Gly	Phe	
	450					455					460					
Gln	Glu	Ala	Pro	Leu	Ala	Tyr	Asp	Ala	Ile	Trp	Ala	Leu	Ala	Leu	Ala	
465				470						475					480	
Leu	Asn	Lys	Thr	Ser	Gly	Gly	Gly	Gly	Arg	Ser	Gly	Val	Arg	Leu	Glu	
			485					490						495		
Asp	Phe	Asn	Tyr	Asn	Asn	Gln	Thr	Ile	Thr	Asp	Gln	Ile	Tyr	Arg	Ala	
		500						505					510			
Met	Asn	Ser	Ser	Ser	Phe	Glu	Gly	Val	Ser	Gly	His	Val	Val	Phe	Asp	
		515					520					525				
Ala	Ser	Gly	Ser	Arg	Met	Ala	Trp	Thr	Leu	Ile	Glu	Gln	Leu	Gln	Gly	
	530					535					540					
Gly	Ser	Tyr	Lys	Lys	Ile	Gly	Tyr	Tyr	Asp	Ser	Thr	Lys	Asp	Asp	Leu	
545				550						555					560	
Ser	Trp	Ser	Lys	Thr	Asp	Lys	Trp	Ile	Gly	Gly	Ser	Pro	Pro	Ala	Asp	
			565					570						575		
Gln	Thr	Leu	Val	Ile	Lys	Thr	Phe	Arg	Phe	Leu	Ser	Gln	Lys	Leu	Phe	
			580					585					590			
Ile	Ser	Val	Ser	Val	Leu	Ser	Ser	Leu	Gly	Ile	Val	Leu	Ala	Val	Val	
		595					600					605				
Cys	Leu	Ser	Phe	Asn	Ile	Tyr	Asn	Ser	His	Val	Arg	Tyr	Ile	Gln	Asn	
	610					615					620					
Ser	Gln	Pro	Asn	Leu	Asn	Asn	Leu	Thr	Ala	Val	Gly	Cys	Ser	Leu	Ala	
625				630						635					640	
Leu	Ala	Ala	Val	Phe	Pro	Leu	Gly	Leu	Asp	Gly	Tyr	His	Ile	Gly	Arg	
			645					650						655		
Asn	Gln	Phe	Pro	Phe	Val	Cys	Gln	Ala	Arg	Leu	Trp	Leu	Leu	Gly	Leu	

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			660					665				670					
Gly	Phe	Ser	Leu	Gly	Tyr	Gly	Ser	Met	Phe	Thr	Lys	Ile	Trp	Trp	Val		
		675					680					685					
His	Thr	Val	Phe	Thr	Lys	Lys	Glu	Glu	Lys	Lys	Glu	Trp	Arg	Lys	Thr		
	690					695					700						
Leu	Glu	Pro	Trp	Lys	Leu	Tyr	Ala	Thr	Val	Gly	Leu	Leu	Val	Gly	Met		
705					710					715					720		
Asp	Val	Leu	Thr	Leu	Ala	Ile	Trp	Gln	Ile	Val	Asp	Pro	Leu	His	Arg		
				725					730					735			
Thr	Ile	Glu	Thr	Phe	Ala	Lys	Glu	Glu	Pro	Lys	Glu	Asp	Ile	Asp	Val		
			740					745					750				
Ser	Ile	Leu	Pro	Gln	Leu	Glu	His	Cys	Ser	Ser	Arg	Lys	Met	Asn	Thr		
		755					760					765					
Trp	Leu	Gly	Ile	Phe	Tyr	Gly	Tyr	Lys	Gly	Leu	Leu	Leu	Leu	Leu	Gly		
	770					775					780						
Ile	Phe	Leu	Ala	Tyr	Glu	Thr	Lys	Ser	Val	Ser	Thr	Glu	Lys	Ile	Asn		
785					790					795					800		
Asp	His	Arg	Ala	Val	Gly	Met	Ala	Ile	Tyr	Asn	Val	Ala	Val	Leu	Cys		
				805					810					815			
Leu	Ile	Thr	Ala	Pro	Val	Thr	Met	Ile	Leu	Ser	Ser	Gln	Gln	Asp	Ala		
			820					825					830				
Ala	Phe	Ala	Phe	Ala	Ser	Leu	Ala	Ile	Val	Phe	Ser	Ser	Tyr	Ile	Thr		
		835					840					845					
Leu	Val	Val	Leu	Phe	Val	Pro	Lys	Met	Arg	Arg	Leu	Ile	Thr	Arg	Gly		
	850					855					860						
Glu	Trp	Gln	Ser	Glu	Ala	Gln	Asp	Thr	Met	Lys	Thr	Gly	Ser	Ser	Thr		
865					870					875					880		
Asn	Asn	Asn	Glu	Glu	Glu	Lys	Ser	Arg	Leu	Leu	Glu	Lys	Glu	Asn	Arg		
				885					890					895			
Glu	Leu	Glu	Lys	Ile	Ile	Ala	Glu	Lys	Glu	Glu	Arg	Val	Ser	Glu	Leu		
			900					905					910				
Arg	His	Gln	Leu	Gln	Ser	Arg	Gln	Gln	Leu	Arg	Ser	Arg	Arg	His	Pro		
		915					920					925					
Pro	Thr	Pro	Pro	Glu	Pro	Ser	Gly	Gly	Leu	Pro	Arg	Gly	Pro	Pro	Glu		
	930					935					940						
Pro	Pro	Asp	Arg	Leu	Ser	Cys	Asp	Gly	Ser	Arg	Val	His	Leu	Leu	Tyr		
945					950					955					960		

Lys

<210> 15

<211> 281

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 15

Met	Ser	Glu	Tyr	Gln	Pro	Ser	Leu	Phe	Ala	Leu	Asn	Pro	Met	Gly	Phe		
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Ser	Pro	Leu	Asp	Gly	Ser	Lys	Ser	Thr	Asn	Glu	Asn	Val	Ser	Ala	Ser		
			20					25					30				
Thr	Ser	Thr	Ala	Lys	Pro	Met	Val	Gly	Gln	Leu	Ile	Phe	Asp	Lys	Phe		
		35					40					45					
Ile	Lys	Thr	Glu	Glu	Asp	Pro	Ile	Ile	Lys	Gln	Asp	Thr	Pro	Ser	Asn		

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50	55	60
Leu Asp Phe Asp Phe Ala	Leu Pro Gln Thr Ala	Thr Ala Pro Asp Ala
65	70	75
Lys Thr Val Leu Pro Ile	Pro Glu Leu Asp Asp	Ala Val Val Glu Ser
	85	90
Phe Phe Ser Ser Ser Thr	Asp Ser Thr Pro Met	Phe Glu Tyr Glu Asn
	100	105
Leu Glu Asp Asn Ser Lys	Glu Trp Thr Ser Leu	Phe Asp Asn Asp Ile
	115	120
Pro Val Thr Thr Asp Asp	Val Ser Leu Ala Asp	Lys Ala Ile Glu Ser
	130	135
Thr Glu Glu Val Ser Leu	Val Pro Ser Asn Leu	Glu Val Ser Thr Thr
145	150	155
Ser Phe Leu Pro Thr Pro	Val Leu Glu Asp Ala	Lys Leu Thr Gln Thr
	165	170
Arg Lys Val Lys Lys Pro	Asn Ser Val Val Lys	Lys Ser His His Val
	180	185
Gly Lys Asp Asp Glu Ser	Arg Leu Asp His Leu	Gly Val Val Ala Tyr
	195	200
Asn Arg Lys Gln Arg Ser	Ile Pro Leu Ser Pro	Ile Val Pro Glu Ser
	210	215
Ser Asp Pro Ala Ala Leu	Lys Arg Ala Arg Asn	Thr Glu Ala Ala Arg
225	230	235
Arg Ser Arg Ala Arg Lys	Leu Gln Arg Met Lys	Gln Leu Glu Asp Lys
	245	250
Val Glu Glu Leu Leu Ser	Lys Asn Tyr His Leu	Glu Asn Glu Val Ala
	260	265
Arg Leu Lys Lys Leu Val	Gly Glu Arg	
	275	280

<210> 16

<211> 957

<212> PRT

<213> Homo sapiens

<400> 16

Met Ala Asp Pro Ala Glu	Cys Ser Ile Lys Val	Met Cys Arg Phe Arg
1	5	10
Pro Leu Asn Glu Ala Glu	Ile Leu Arg Gly Asp	Lys Phe Ile Pro Lys
	20	25
Phe Lys Gly Asp Glu Thr	Val Val Ile Gly Gln	Gly Lys Pro Tyr Val
	35	40
Phe Asp Arg Val Leu Pro	Pro Asn Thr Thr Gln	Glu Gln Val Tyr Asn
	50	55
Ala Cys Ala Lys Gln Ile	Val Lys Asp Val Leu	Glu Gly Tyr Asn Gly
65	70	75
Thr Ile Phe Ala Tyr Gly	Gln Thr Ser Ser Gly	Lys Thr His Thr Met
	85	90
Glu Gly Lys Leu His Asp	Pro Gln Leu Met Gly	Ile Ile Pro Arg Ile
	100	105
Ala His Asp Ile Phe Asp	His Ile Tyr Ser Met	Asp Glu Asn Leu Glu
	115	120
Phe His Ile Lys Val Ser	Tyr Phe Glu Ile Tyr	Leu Asp Lys Ile Arg

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130	135	140
Asp Leu Leu Asp Val Ser Lys Thr Asn Leu Ala Val His Glu Asp Lys		
145	150	155
Asn Arg Val Pro Tyr Val Lys Gly Cys Thr Glu Arg Phe Val Ser Ser		160
	165	170
Pro Glu Glu Val Met Asp Val Ile Asp Glu Gly Lys Ala Asn Arg His		175
	180	185
Val Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Ile		190
	195	200
Phe Leu Ile Asn Ile Lys Gln Glu Asn Val Glu Thr Glu Lys Lys Leu		205
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Lys Thr Gly Ala Glu Gly Ala Val Leu Asp Glu Ala Lys Asn Ile Asn		240
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Lys Ser Leu Ser Ala Leu Gly Asn Val Ile Ser Ala Leu Ala Glu Gly		255
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Thr Lys Thr His Val Pro Tyr Arg Asp Ser Lys Met Thr Arg Ile Leu		270
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Gln Asp Ser Leu Gly Gly Asn Cys Arg Thr Thr Ile Val Ile Cys Cys		285
	290	295
Ser Pro Ser Val Phe Asn Glu Ala Glu Thr Lys Ser Thr Leu Met Phe		300
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Gly Gln Arg Ala Lys Thr Ile Lys Asn Thr Val Ser Val Asn Leu Glu		320
	325	330
Leu Thr Ala Glu Glu Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys		335
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Asn Lys Thr Leu Lys Asn Val Ile Gln His Leu Glu Met Glu Leu Asn		350
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Arg Trp Arg Asn Gly Glu Ala Val Pro Glu Asp Glu Gln Ile Ser Ala		365
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Lys Asp Gln Lys Asn Leu Glu Pro Cys Asp Asn Thr Pro Ile Ile Asp		380
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Asn Ile Ala Pro Val Val Ala Gly Ile Ser Thr Glu Glu Lys Glu Lys		400
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Tyr Asp Glu Glu Ile Ser Ser Leu Tyr Arg Gln Leu Asp Asp Lys Asp		415
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Asp Glu Ile Asn Gln Gln Ser Gln Leu Ala Glu Lys Leu Lys Gln Gln		430
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Met Leu Asp Gln Asp Glu Leu Leu Ala Ser Thr Arg Arg Asp Tyr Glu		445
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Lys Ile Gln Glu Glu Leu Thr Arg Leu Gln Ile Glu Asn Glu Ala Ala		460
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Lys Asp Glu Val Lys Glu Val Leu Gln Ala Leu Glu Glu Leu Ala Val		480
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	500	505
Glu Gln Leu Thr Asp Glu Leu Ala Gln Lys Thr Thr Thr Leu Thr Thr		510
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Thr Gln Arg Glu Leu Ser Gln Leu Gln Glu Leu Ser Asn His Gln Lys		525
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Leu	Arg	Lys	Leu	Phe	Val	Gln	Asp	Leu	Thr	Thr	Arg	Val	Lys	Lys	Ser
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Val	Glu	Leu	Asp	Asn	Asp	Asp	Gly	Gly	Gly	Ser	Ala	Ala	Gln	Lys	Gln
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Lys	Ile	Ser	Phe	Leu	Glu	Asn	Asn	Leu	Glu	Gln	Leu	Thr	Lys	Val	His
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Tyr	Gln	Gln	Glu	Val	Asp	Arg	Ile	Lys	Glu	Ala	Val	Arg	Ala	Lys	Asn
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<212> PRT

<213> Mus musculus

<400> 17

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Leu Thr Ala Glu Glu Trp Lys Lys Lys Tyr Glu Lys Glu Lys Glu Lys
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Asn Lys Ala Leu Lys Ser Val Leu Gln His Leu Glu Met Glu Leu Asn
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Tyr	Asp	Gln	Lys	Ser	Gln	Glu	Val	Glu	Asp	Lys	Thr	Arg	Ala	Asn
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Leu	Leu	Leu	Leu	Asn	Asp	Lys	Arg	Glu	Gln	Ala	Arg	Glu	Asp	Leu
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Gly	Leu	Glu	Glu	Thr	Val	Ser	Ile	Glu	Leu	Gln	Thr	Leu	His	Asn
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Arg	Lys	Leu	Phe	Val	Gln	Asp	Leu	Thr	Thr	Arg	Val	Lys	Lys	Ser
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Gln	Leu	Val	Arg	Asp	Asn	Ala	Asp	Leu	Arg	Cys	Glu	Leu	Pro	Lys	Leu
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Glu	Lys	Arg	Leu	Arg	Ala	Thr	Ala	Glu	Arg	Val	Lys	Ala	Leu	Glu	Ser
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Ala	Leu	Lys	Glu	Ala	Lys	Glu	Asn	Ala	Met	Arg	Asp	Arg	Lys	Arg	Tyr
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<210> 18

<211> 815

<212> PRT

<213> Caenorhabditis elegans

<400> 18

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Thr	Met	Glu	Gly	Val	Ile	Gly	Asp	Asn	Gly	Leu	Ser	Gly	Ile	Ile	Pro
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Leu	Gln	Phe	His	Ile	Lys	Val	Ser	Tyr	Tyr	Glu	Ile	Tyr	Asn	Glu	Lys
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Ile	Arg	Asp	Leu	Leu	Asp	Pro	Glu	Lys	Val	Asn	Leu	Ser	Ile	His	Glu
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Asp	Lys	Asn	Arg	Val	Pro	Tyr	Val	Lys	Gly	Ala	Thr	Glu	Arg	Phe	Val
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Gly	Gly	Pro	Asp	Glu	Val	Leu	Gln	Ala	Ile	Glu	Asp	Gly	Lys	Ser	Asn
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Arg	Met	Val	Ala	Val	Thr	Asn	Met	Asn	Glu	His	Ser	Ser	Arg	Ser	His
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Glu	Asp	Ser	Leu	Ser	Gly	Pro	Ala	Gln	Lys	Gln	Arg	Ile	Gln	Phe	Leu		
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Arg	Gly	Arg	Glu	Asp	Arg	Ile	Lys	Ile	Leu	Glu	Thr	Ala	Leu	Arg	Asp		
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Ser	Lys	Gln	Arg	Ser	Gln	Ala	Glu	Arg	Lys	Lys	Tyr	Gln	Gln	Glu	Val		
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Glu	Arg	Ile	Lys	Glu	Ala	Val	Arg	Gln	Arg	Asn	Met	Arg	Arg	Met	Asn		
	770					775					780						
Ala	Pro	Gln	Ile	Val	Lys	Pro	Ile	Arg	Pro	Gly	Gln	Val	Tyr	Thr	Ser		
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<211> 975

<212> PRT

<213> Drosophila melanogaster

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Thr	Ile	Val	Ile	Cys	Cys	Ser	Pro	Ala	Ser	Phe	Asn	Glu	Ser	Glu	Thr		
305				310						315					320		
Lys	Ser	Thr	Leu	Asp	Phe	Gly	Arg	Arg	Ala	Lys	Thr	Val	Lys	Asn	Val		
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Val	Cys	Val	Asn	Glu	Glu	Leu	Thr	Ala	Glu	Glu	Trp	Lys	Arg	Arg	Tyr		
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	355					360						365					
Leu	Glu	Ile	Glu	Leu	Ala	Arg	Trp	Arg	Ala	Gly	Glu	Thr	Val	Lys	Ala		
	370					375					380						
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Leu	Glu	Val	Glu	Ala	Ala	Gln	Thr	Ala	Ala	Ala	Glu	Ala	Ala	Leu	Ala		
				405				410						415			
Ala	Gln	Arg	Thr	Ala	Leu	Ala	Asn	Met	Ser	Ala	Ser	Val	Ala	Val	Asn		
			420					425					430				
Glu	Gln	Ala	Arg	Leu	Ala	Thr	Glu	Cys	Glu	Arg	Leu	Tyr	Gln	Gln	Leu		
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Asp	Asp	Lys	Asp	Glu	Glu	Ile	Asn	Gln	Gln	Ser	Gln	Tyr	Ala	Glu	Gln		
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Leu	Lys	Glu	Gln	Val	Met	Glu	Gln	Glu	Glu	Leu	Ile	Ala	Asn	Ala	Arg		
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Arg	Glu	Tyr	Glu	Thr	Leu	Gln	Ser	Glu	Met	Ala	Arg	Ile	Gln	Gln	Glu		
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Ser	Ala	Val	Asn	Ala	Glu	Glu	Lys	Gln	Arg	Ala	Glu	Glu	Leu	Arg	Ser
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Met	Phe	Asp	Ser	Gln	Met	Asp	Glu	Leu	Arg	Glu	Ala	His	Thr	Arg	Gln
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Val	Ser	Glu	Leu	Arg	Asp	Glu	Ile	Ala	Ala	Lys	Gln	His	Glu	Met	Asp
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Glu	Met	Lys	Asp	Val	His	Gln	Lys	Leu	Leu	Leu	Ala	His	Gln	Gln	Met
		755													765
Thr	Ala	Asp	Tyr	Glu	Lys	Val	Arg	Gln	Glu	Asp	Ala	Glu	Lys	Ser	Ser
	770														780
Glu	Leu	Gln	Asn	Ile	Ile	Leu	Thr	Asn	Glu	Arg	Arg	Glu	Gln	Ala	Arg
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Lys	Asp	Leu	Lys	Gly	Leu	Glu	Asp	Thr	Val	Ala	Lys	Glu	Leu	Gln	Thr
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Leu	His	Asn	Leu	Arg	Lys	Leu	Phe	Val	Gln	Asp	Leu	Gln	Gln	Arg	Ile
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Ala	Gln	Lys	Gln	Lys	Ile	Ser	Phe	Leu	Glu	Asn	Asn	Leu	Asp	Gln	Leu
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<211> 963

<212> PRT

<213> Homo sapiens

<400> 20

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Cys	Ala	Lys	Lys	Ile	Val	Lys	Asp	Val	Leu	Glu	Gly	Tyr	Asn	Gly	Thr
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Ile	Phe	Ala	Tyr	Gly	Gln	Thr	Ser	Ser	Gly	Lys	Thr	His	Thr	Met	Glu
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Gly	Lys	Leu	His	Asp	Pro	Glu	Gly	Met	Gly	Ile	Ile	Pro	Arg	Ile	Val
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Gln	Asp	Ile	Phe	Asn	Tyr	Ile	Tyr	Ser	Met	Asp	Glu	Asn	Leu	Glu	Phe
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His	Ile	Lys	Val	Ser	Tyr	Phe	Glu	Ile	Tyr	Leu	Asp	Lys	Ile	Arg	Asp
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Leu	Leu	Asp	Val	Ser	Lys	Thr	Asn	Leu	Ser	Val	His	Glu	Asp	Lys	Asn
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Arg	Val	Pro	Tyr	Val	Lys	Gly	Cys	Thr	Glu	Arg	Phe	Val	Cys	Ser	Pro
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Ala	Glu	Gln	Trp	Lys	Lys	Lys	Tyr	Glu	Lys	Glu	Lys	Glu	Lys	Asn	Lys
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Ile	Leu	Arg	Asn	Thr	Ile	Gln	Trp	Leu	Glu	Asn	Glu	Leu	Asn	Arg	Trp
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Arg	Asn	Gly	Glu	Thr	Val	Pro	Ile	Asp	Glu	Gln	Phe	Asp	Lys	Glu	Lys
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Ala	Asn	Leu	Glu	Ala	Phe	Thr	Val	Asp	Lys	Asp	Ile	Thr	Leu	Thr	Asn
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Asp	Lys	Pro	Ala	Thr	Ala	Ile	Gly	Val	Ile	Gly	Asn	Phe	Thr	Asp	Ala
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Glu	Arg	Arg	Lys	Cys	Glu	Glu	Glu	Ile	Ala	Lys	Leu	Tyr	Lys	Gln	Leu
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Glu	Leu	Ala	Val	Asn	Tyr	Asp	Gln	Lys	Ser	Gln	Glu	Val	Glu	Asp	Lys		
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Thr	Leu	Ala	Ser	Ile	Asp	Ala	Glu	Leu	Gln	Lys	Leu	Lys	Glu	Met	Thr		
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Asn	Lys	Val	Gln	Thr	Ala	Asn	Glu	Val	Lys	Gln	Ala	Val	Glu	Gln	Gln		
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Ile	Gln	Ser	His	Arg	Glu	Thr	His	Gln	Lys	Gln	Ile	Ser	Ser	Leu	Arg		
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Asp	Glu	Val	Glu	Ala	Lys	Ala	Lys	Leu	Ile	Thr	Asp	Leu	Gln	Asp	Gln		
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 His Pro Ala Ala Ser Pro Thr His Pro Ser Ala Ile Arg Gly Gly Gly
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 Gln Asp Ile Phe Asn Tyr Ile Tyr Gly Met Asp Glu Asn Leu Glu Phe
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 His Ile Lys Ile Ser Tyr Tyr Glu Ile Tyr Leu Asp Lys Ile Arg Asp
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 Ala Val Thr Asn Met Asn Glu His Ser Ser Arg Ser His Ser Val Phe
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 Leu Ile Asn Val Lys Gln Glu Asn Val Glu Thr Gln Lys Lys Leu Ser
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 Gly Lys Leu Tyr Leu Val Asp Leu Ala Gly Ser Glu Lys Val Ser Lys
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<210> 22

<211> 963

<212> PRT

<213> Mus musculus

<400> 22

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Phe	Gln	Gly	Glu	Asp	Thr	Val	Val	Ile	Ala	Ser	Lys	Pro	Tyr	Ala	Phe				
		35					40					45							
Asp	Arg	Val	Phe	Gln	Ser	Ser	Thr	Ser	Gln	Glu	Gln	Val	Tyr	Asn	Asp				
	50					55					60								
Cys	Ala	Lys	Lys	Ile	Val	Lys	Asp	Val	Leu	Glu	Gly	Tyr	Asn	Gly	Thr				

65						70						75						80
Ile	Phe	Ala	Tyr	Gly	Gln	Thr	Ser	Ser	Gly	Lys	Thr	His	Thr	Met	Glu			
				85					90					95				
Gly	Lys	Leu	His	Asp	Pro	Glu	Gly	Met	Gly	Ile	Ile	Pro	Arg	Ile	Val			
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Gln	Asp	Ile	Phe	Asn	Tyr	Ile	Tyr	Ser	Met	Asp	Glu	Asn	Leu	Glu	Phe			
		115					120					125						
His	Ile	Lys	Val	Ser	Tyr	Phe	Glu	Ile	Tyr	Leu	Asp	Lys	Ile	Arg	Asp			
	130					135					140							
Leu	Leu	Asp	Val	Ser	Lys	Thr	Asn	Leu	Ser	Val	His	Glu	Asp	Lys	Asn			
145					150					155					160			
Arg	Val	Pro	Tyr	Val	Lys	Gly	Cys	Thr	Glu	Arg	Phe	Val	Cys	Ser	Pro			
				165					170					175				
Asp	Glu	Val	Met	Asp	Thr	Ile	Asp	Glu	Gly	Lys	Ser	Asn	Arg	His	Val			
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Ala	Val	Thr	Asn	Met	Asn	Glu	His	Ser	Ser	Arg	Ser	His	Ser	Ile	Phe			
		195					200					205						
Leu	Ile	Asn	Val	Lys	Gln	Glu	Asn	Thr	Gln	Thr	Glu	Gln	Lys	Leu	Ser			
	210					215					220							
Gly	Lys	Leu	Tyr	Leu	Val	Asp	Leu	Ala	Gly	Ser	Glu	Lys	Val	Ser	Lys			
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Thr	Gly	Ala	Glu	Gly	Ala	Val	Leu	Asp	Glu	Ala	Lys	Asn	Ile	Asn	Lys			
				245					250					255				
Ser	Leu	Ser	Ala	Leu	Gly	Asn	Val	Ile	Ser	Ala	Leu	Ala	Glu	Gly	Ser			
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Thr	Tyr	Val	Pro	Tyr	Arg	Asp	Ser	Lys	Met	Thr	Arg	Ile	Leu	Gln	Asp			
		275					280					285						
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	290					295					300							
Ser	Ser	Tyr	Asn	Glu	Ser	Glu	Thr	Lys	Ser	Thr	Leu	Leu	Phe	Gly	Gln			
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Arg	Ala	Lys	Thr	Ile	Lys	Asn	Thr	Val	Cys	Val	Asn	Val	Glu	Leu	Thr			
				325					330					335				
Ala	Glu	Gln	Trp	Lys	Lys	Lys	Tyr	Glu	Lys	Glu	Lys	Glu	Lys	Asn	Lys			
			340					345					350					
Thr	Leu	Arg	Asn	Thr	Ile	Gln	Trp	Leu	Glu	Asn	Glu	Leu	Asn	Arg	Trp			
		355					360					365						
Arg	Asn	Gly	Glu	Thr	Val	Pro	Ile	Asp	Glu	Gln	Phe	Asp	Lys	Glu	Lys			
	370					375					380							
Ala	Asn	Leu	Glu	Ala	Phe	Thr	Ala	Asp	Lys	Asp	Ile	Ala	Ile	Thr	Ser			
385					390					395					400			
Asp	Lys	Gly	Ala	Ala	Ala	Val	Gly	Met	Ala	Gly	Ser	Phe	Thr	Asp	Ala			
				405					410					415				
Glu	Arg	Arg	Lys	Cys	Glu	Glu	Glu	Leu	Ala	Lys	Leu	Tyr	Lys	Gln	Leu			
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Thr	Lys	Glu	Tyr	Glu	Leu	Leu	Thr	Asp	Glu	Phe	Asn	Gln	Lys	Ser	Ala
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Thr	Leu	Ala	Ser	Ile	Asp	Ala	Glu	Leu	Gln	Lys	Leu	Lys	Glu	Met	Thr
	530					535					540				
Asn	His	Gln	Lys	Lys	Arg	Ala	Ala	Glu	Met	Met	Ala	Ser	Leu	Leu	Lys
545					550					555					560
Asp	Leu	Ala	Glu	Ile	Gly	Ile	Ala	Val	Gly	Asn	Asn	Asp	Val	Lys	Gln
			565						570					575	
Pro	Glu	Gly	Thr	Gly	Met	Ile	Asp	Glu	Glu	Phe	Thr	Val	Ala	Arg	Leu
			580					585					590		
Tyr	Ile	Ser	Lys	Met	Lys	Ser	Glu	Val	Lys	Thr	Met	Val	Lys	Arg	Cys
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	610					615					620				
Asn	Glu	Lys	Glu	Leu	Ala	Ala	Cys	Gln	Leu	Arg	Ile	Ser	Gln	His	Glu
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Ala	Lys	Ile	Lys	Ser	Leu	Thr	Glu	Tyr	Leu	Gln	Asn	Asp	Glu	Gln	Lys
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Gln	Leu	Arg	Ala	Gln	Glu	Lys	Val	His	Glu	Met	Glu	Lys	Glu	His	Leu
		675					680					685			
Asn	Lys	Val	Gln	Thr	Ala	Asn	Glu	Val	Lys	Gln	Ala	Val	Glu	Gln	Gln
	690					695					700				
Ile	Gln	Ser	His	Arg	Glu	Thr	His	Gln	Lys	Gln	Ile	Ser	Ser	Leu	Arg
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Asp	Glu	Val	Glu	Ala	Lys	Glu	Lys	Leu	Ile	Thr	Asp	Leu	Gln	Asp	Gln
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Asn	Gln	Lys	Met	Val	Leu	Glu	Thr	Glu	Arg	Leu	Arg	Val	Glu	His	Glu
		740						745					750		
Arg	Leu	Lys	Ala	Thr	Asp	Gln	Glu	Lys	Ser	Arg	Lys	Leu	His	Glu	Leu
		755					760					765			
Thr	Val	Met	Gln	Asp	Arg	Arg	Glu	Gln	Ala	Arg	Gln	Asp	Leu	Lys	Gly
	770					775					780				
Leu	Glu	Glu	Thr	Val	Ala	Lys	Glu	Leu	Gln	Thr	Leu	His	Asn	Leu	Arg
785					790					795					800
Lys	Leu	Phe	Val	Gln	Asp	Leu	Ala	Thr	Arg	Val	Lys	Lys	Ser	Ala	Glu
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Val	Asp	Ser	Asp	Asp	Thr	Gly	Gly	Ser	Ala	Ala	Gln	Lys	Gln	Lys	Ile
		820						825					830		
Ser	Phe	Leu	Glu	Asn	Asn	Leu	Glu	Gln	Leu	Thr	Lys	Val	His	Lys	Gln
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Leu	Val	Arg	Asp	Asn	Ala	Asp	Leu	Arg	Cys	Glu	Leu	Pro	Lys	Leu	Glu
	850					855					860				
Phe	Arg	Leu	Arg	Ala	Thr	Ala	Glu	Arg	Val	Lys	Ala	Leu	Glu	Ser	Ala
865					870					875					880
Leu	Lys	Glu	Ala	Lys	Glu	Asn	Ala	Ser	Arg	Asp	Arg	Lys	Arg	Tyr	Gln
			885						890					895	
Gln	Glu	Val	Asp	Arg	Ile	Lys	Glu	Ala	Val	Arg	Ser	Lys	Asn	Met	Ala
		900						905					910		
Arg	Arg	Gly	His	Ser	Ala	Gln	Ile	Ala	Lys	Pro	Ile	Arg	Pro	Gly	Gln

915						920						925					
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Ser	Phe	Val	Gln	Asn	Asn	Gln	Pro	Val	Gly	Leu	Arg	Gly	Gly	Gly	Gly		
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Phe	Thr 50	Phe	Asp	Arg	Val	Phe 55	Asp	Met	Ser	Cys	Lys 60	Gln	Ser	Asp	Ile
Phe 65	Asp	Phe	Ser	Ile	Lys 70	Pro	Thr	Val	Asp	Asp 75	Ile	Leu	Asn	Gly 80	Tyr
Asn	Gly	Thr	Val 85	Phe	Ala	Tyr	Gly	Gln 90	Thr	Gly	Ala	Gly	Lys 95	Ser	Tyr
Thr	Met	Met	Gly 100	Thr	Ser	Ile	Asp	Asp 105	Pro	Asp	Gly	Arg	Gly 110	Val	Ile
Pro	Arg	Ile 115	Val	Glu	Gln	Ile	Phe 120	Thr	Ser	Ile	Leu	Ser	Ser 125	Ala	Ala
Asn	Ile 130	Glu	Tyr	Thr	Val	Arg 135	Val	Ser	Tyr	Met	Glu	Ile	Tyr 140	Met	Glu
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Glu	Glu	Lys	Asn 165	Arg	Gly	Val	Tyr	Val	Lys 170	Gly	Leu	Leu	Glu 175	Ile	Tyr
Val	Ser	Ser	Val 180	Gln	Glu	Val	Tyr	Glu 185	Val	Met	Arg	Arg	Gly 190	Gly	Asn
Ala	Arg	Ala 195	Val	Ala	Ala	Thr	Asn 200	Met	Asn	Gln	Glu	Ser	Ser 205	Arg	Ser
His	Ser 210	Ile	Phe	Val	Ile 215	Thr	Ile	Thr	Gln	Lys	Asn 220	Val	Glu	Thr	Gly
Ser 225	Ala	Lys	Ser	Gly	Gln 230	Leu	Phe	Leu	Val	Asp 235	Leu	Ala	Gly	Ser	Glu
Lys	Val	Gly	Lys 245	Thr	Gly	Ala	Ser	Gly	Gln 250	Thr	Leu	Glu	Glu 255	Ala	Lys
Lys	Ile	Asn	Lys 260	Ser	Leu	Ser	Ala	Leu 265	Gly	Met	Val	Ile	Asn 270	Ala	Leu
Thr	Asp	Gly 275	Lys	Ser	Ser	His	Val 280	Pro	Tyr	Arg	Asp	Ser	Lys 285	Leu	Thr
Arg	Ile 290	Leu	Gln	Glu	Ser	Leu 295	Gly	Gly	Asn	Ser	Arg	Thr	Thr	Leu	Ile
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Asn	Ala	Glu	Leu	Ser	Pro	Ala	Glu	Leu	Lys	Gln	Met	Leu	Ala	Lys Ala
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Lys	Thr	Gln	Ile	Thr	Ser	Phe	Glu	Asn	Tyr	Ile	Val	Asn	Leu	Glu Ser
		355					360					365		
Glu	Val	Gln	Val	Trp	Arg	Gly	Gly	Glu	Thr	Val	Pro	Lys	Glu	Lys Trp
	370					375					380			
Val	Pro	Pro	Leu	Glu	Leu	Ala	Ile	Thr	Pro	Ser	Lys	Ser	Ala	Ser Thr
385					390					395				400
Thr	Ala	Arg	Pro	Ser	Thr	Pro	Ser	Arg	Leu	Leu	Pro	Glu	Ser	Arg Ala
				405					410					415
Glu	Thr	Pro	Ala	Ile	Ser	Asp	Arg	Ala	Gly	Thr	Pro	Ser	Leu	Pro Leu
			420					425					430	
Asp	Lys	Asp	Glu	Arg	Glu	Glu	Phe	Leu	Arg	Arg	Glu	Asn	Glu	Leu Gln
		435					440					445		
Asp	Gln	Ile	Ala	Glu	Lys	Glu	Ser	Ile	Ala	Ala	Ala	Ala	Glu	Arg Gln
	450					455					460			
Leu	Arg	Glu	Thr	Lys	Glu	Glu	Leu	Ile	Ala	Leu	Lys	Asp	His	Asp Ser
465				470						475				480
Lys	Leu	Gly	Lys	Glu	Asn	Glu	Arg	Leu	Ile	Ser	Glu	Ser	Asn	Glu Phe
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Lys	Met	Gln	Leu	Glu	Arg	Leu	Ala	Phe	Glu	Asn	Lys	Glu	Ala	Gln Ile
			500					505					510	
Thr	Ile	Asp	Gly	Leu	Lys	Asp	Ala	Asn	Ser	Glu	Leu	Thr	Ala	Glu Leu
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Thr	Ser	Ala	Val	Leu	Asp	Glu	Lys	Glu	Lys	Lys	Lys	Ala	Glu	Lys Met
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Ala	Lys	Met	Met	Ala	Gly	Phe	Asp	Leu	Ser	Gly	Asp	Val	Phe	Ser Asp
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Asn	Glu	Arg	Ala	Val	Ala	Asp	Ala	Ile	Ala	Gln	Leu	Asp	Ala	Leu Phe
			580					585					590	
Glu	Ile	Ser	Ser	Ala	Gly	Asp	Ala	Ile	Pro	Pro	Glu	Asp	Ile	Lys Ala
		595				600						605		
Leu	Arg	Glu	Lys	Leu	Val	Glu	Thr	Gln	Gly	Phe	Val	Arg	Gln	Ala Glu
	610					615					620			
Leu	Ser	Ser	Phe	Ser	Ala	Ala	Ser	Ser	Asp	Ala	Glu	Ala	Arg	Lys Arg
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Ala	Glu	Leu	Glu	Ala	Arg	Leu	Glu	Ala	Leu	Gln	Gln	Glu	His	Glu Glu
				645					650					655
Leu	Leu	Ser	Arg	Asn	Leu	Thr	Glu	Ala	Asp	Lys	Glu	Glu	Val	Lys Ala
			660					665					670	
Leu	Leu	Ala	Lys	Ser	Leu	Ser	Asp	Lys	Ser	Ala	Val	Gln	Val	Glu Leu
		675					680					685		
Val	Glu	Gln	Leu	Lys	Ala	Asp	Ile	Ala	Leu	Lys	Asn	Ser	Glu	Thr Glu
	690					695					700			
His	Leu	Lys	Ala	Leu	Val	Asp	Asp	Leu	Gln	Arg	Arg	Val	Lys	Ala Gly
705					710					715				720
Gly	Ala	Gly	Val	Ala	Met	Ala	Asn	Gly	Lys	Thr	Val	Gln	Gln	Gln Leu
				725					730					735

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Ala	Glu	Phe	Asp	Val	Met	Lys	Lys	Ser	Leu	Met	Arg	Asp	Leu	Gln	Asn	
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Arg	Cys	Glu	Arg	Val	Val	Glu	Leu	Glu	Ile	Ser	Leu	Asp	Glu	Thr	Arg	
		755					760					765				
Glu	Gln	Tyr	Asn	Asn	Val	Leu	Arg	Ser	Ser	Asn	Asn	Arg	Ala	Gln	Gln	
	770					775					780					
Lys	Lys	Met	Ala	Phe	Leu	Glu	Arg	Asn	Leu	Glu	Gln	Leu	Thr	Gln	Val	
785					790					795					800	
Gln	Arg	Gln	Leu	Val	Glu	Gln	Asn	Ser	Ala	Leu	Lys	Lys	Glu	Val	Ala	
				805					810					815		
Ile	Ala	Glu	Arg	Lys	Leu	Met	Ala	Arg	Asn	Glu	Arg	Ile	Gln	Ser	Leu	
			820					825					830			
Glu	Ser	Leu	Leu	Gln	Glu	Ser	Gln	Glu	Lys	Met	Ala	Gln	Ala	Asn	His	
		835					840					845				
Lys	Phe	Glu	Val	Gln	Leu	Ala	Ala	Val	Lys	Asp	Arg	Leu	Glu	Ala	Ala	
	850					855					860					
Lys	Ala	Gly	Ser	Thr	Arg	Gly	Leu	Gly	Thr	Asp	Ala	Gly	Leu	Gly	Gly	
865					870					875					880	
Phe	Ser	Ile	Gly	Ser	Arg	Ile	Ala	Lys	Pro	Leu	Arg	Gly	Gly	Gly	Asp	
				885					890						895	
Ala	Val	Ala	Gly	Ala	Thr	Ala	Thr	Asn	Pro	Thr	Ile	Ala	Thr	Leu	Gln	
			900					905					910			
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<211> 1031

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 24

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Ile	Ser	Glu	Glu	Gln	Val	Gln	Ile	Gly	Gly	Lys	Leu	Asn	Met	Phe	Asp	
	35					40						45				
Arg	Ile	Phe	Lys	Pro	Asn	Thr	Thr	Gln	Glu	Glu	Val	Tyr	Asn	Lys	Ala	
	50					55					60					
Ala	Arg	Gln	Ile	Val	Lys	Asp	Val	Leu	Asp	Gly	Tyr	Asn	Gly	Thr	Ile	
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Phe	Ala	Tyr	Gly	Gln	Thr	Ser	Ser	Gly	Lys	Thr	Phe	Thr	Met	Glu	Gly	
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Val	Met	Gly	Asn	Pro	Gln	Tyr	Met	Gly	Ile	Ile	Pro	Arg	Ile	Val	Gln	
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Asp	Ile	Phe	Asn	His	Ile	Tyr	Gln	Met	Asp	Glu	Ser	Leu	Glu	Phe	His	
		115					120					125				
Ile	Lys	Val	Ser	Tyr	Phe	Glu	Ile	Tyr	Met	Asp	Arg	Ile	Arg	Asp	Leu	
	130					135					140					
Leu	Asp	Val	Ser	Lys	Thr	Asn	Leu	Ser	Val	His	Glu	Asp	Lys	Asn	Arg	
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Val	Pro	Phe	Val	Lys	Gly	Ala	Thr	Glu	Arg	Phe	Ala	Ser	Ser	Pro	Glu	
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Glu	Val	Met	Asp	Val	Ile	Glu	Glu	Gly	Lys	Ser	Asn	Arg	His	Ile	Ala
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Ile	Gln	Val	Lys	Gln	Glu	Asn	Met	Glu	Thr	Lys	Lys	Lys	Leu	Ser	Gly
	210					215					220				
Lys	Leu	Tyr	Leu	Val	Asp	Leu	Ala	Gly	Ser	Glu	Lys	Val	Ser	Lys	Thr
225					230					235					240
Gly	Ala	Glu	Gly	Thr	Val	Leu	Asp	Glu	Ala	Lys	Asn	Ile	Asn	Lys	Ser
				245					250					255	
Leu	Ser	Ala	Leu	Gly	Asn	Val	Ile	Ser	Ala	Leu	Ala	Asp	Gly	Lys	Lys
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Ser	Leu	Gly	Gly	Asn	Ala	Arg	Thr	Thr	Ile	Val	Ile	Cys	Cys	Ser	Pro
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Ser	Ser	Phe	Asn	Glu	Ser	Glu	Ser	Lys	Ser	Thr	Leu	Met	Phe	Gly	Gln
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Arg	Ala	Lys	Thr	Ile	Lys	Asn	Thr	Val	Thr	Val	Asn	Met	Glu	Leu	Thr
				325					330					335	
Ala	Glu	Glu	Trp	Arg	Asn	Arg	Tyr	Glu	Lys	Glu	Lys	Glu	Lys	Asn	Gly
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Arg	Leu	Lys	Ala	Gln	Leu	Leu	Ile	Leu	Glu	Asn	Glu	Leu	Gln	Arg	Trp
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Arg	Ala	Gly	Glu	Ser	Val	Pro	Val	Lys	Glu	Gln	Gly	Asn	Lys	Asn	Asp
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Glu	Ile	Leu	Lys	Glu	Met	Met	Lys	Pro	Lys	Gln	Met	Thr	Val	His	Val
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Ser	Glu	Glu	Glu	Lys	Asn	Lys	Trp	Glu	Glu	Glu	Lys	Val	Lys	Leu	Tyr
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Glu	Gln	Leu	Asp	Glu	Lys	Asp	Ser	Glu	Ile	Asp	Asn	Gln	Ser	Arg	Leu
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Thr	Glu	Lys	Leu	Lys	Gln	Gln	Met	Leu	Glu	Gln	Glu	Glu	Leu	Leu	Ser
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Ser	Met	Gln	Arg	Asp	Tyr	Glu	Leu	Leu	Gln	Ser	Gln	Met	Gly	Arg	Leu
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Glu	Ala	Glu	Asn	Ala	Ala	Ala	Lys	Glu	Glu	Ala	Lys	Glu	Val	Leu	Gln
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Ala	Leu	Glu	Glu	Met	Ala	Val	Asn	Tyr	Asp	Glu	Lys	Ser	Lys	Glu	Val
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Glu	Asp	Lys	Asn	Arg	Met	Asn	Glu	Thr	Leu	Ser	Glu	Glu	Val	Asn	Glu
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Lys	Met	Thr	Ala	Leu	His	Thr	Thr	Ser	Thr	Glu	Leu	Gln	Lys	Leu	Gln
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Ala	Asp	Met	Lys	Pro	Asn	Val	Glu	Asn	Ile	Glu	Lys	Val	Asp	Glu	Glu
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Phe	Thr	Met	Ala	Arg	Leu	Phe	Val	Ser	Lys	Met	Lys	Thr	Glu	Val	Lys
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Thr	Met	Ser	Gln	Arg	Cys	Lys	Ile	Leu	Glu	Ala	Ser	Asn	Ala	Glu	Asn

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Thr	Ile	Gln	Gln	His	Glu	Ala	Lys	Met	Lys	Ser	Leu	Ser	Glu	Asn	Ile
625					630					635					640
Arg	Glu	Thr	Glu	Gly	Lys	Lys	Arg	His	Leu	Glu	Asp	Ser	Leu	Asp	Met
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Glu	Pro	Ile	Ser	His	Asn	Asn	Ser	Phe	Glu	Lys	Ser	Leu	Asn	Pro	Asn
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Gly	Thr	Val	Phe 85	Ala	Tyr	Gly	Gln	Thr	Gly 90	Ser	Gly	Lys	Thr	Phe	Thr
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Arg	Ile	Val 115	Glu	Gln	Ile	Phe	Asp	Ser	Ile	Met	Ala	Ser	Pro	Ser	Asn
Leu	Glu	Phe 130	Thr	Val	Lys	Val	Ser	Tyr	Met	Glu	Ile	Tyr	Met	Glu	Lys
Val 145	Arg	Asp	Leu	Leu	Asn	Pro	Ser	Ser	Glu	Asn	Leu	Pro	Ile	His	Glu 160
Asp	Lys	Thr	Lys 165	Gly	Val	Tyr	Val	Lys	Gly 170	Leu	Leu	Glu	Val	Tyr	Val
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Arg	Val	Val 195	Ala	Tyr	Thr	Asn	Met	Asn	Ala	Glu	Ser	Ser	Arg	Ser	His
Ser	Ile	Val 210	Met	Phe	Thr	Ile	Thr	Gln	Lys	Asn	Val	Asp	Thr	Gly	Ala
Ala 225	Lys	Ser	Gly	Lys	Leu	Tyr	Leu	Val	Asp	Leu	Ala	Gly	Ser	Glu	Lys
Val	Gly	Lys	Thr 245	Gly	Ala	Ser	Gly	Gln	Thr	Leu	Glu	Glu	Ala	Lys	Lys
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Asp	Gly	Lys 275	Ser	Ser	His	Val	Pro	Tyr	Arg	Asp	Ser	Lys	Leu	Thr	Arg
Ile	Leu	Gln	Glu	Ser	Leu	Gly 295	Asn	Ser	Arg	Thr	Thr	Leu	Ile	Ile	
Asn 305	Cys	Ser	Pro	Ser	Ser	Tyr	Asn	Glu	Ala	Glu	Thr	Leu	Ser	Thr	Leu
Arg	Phe	Gly	Ala 325	Arg	Ala	Lys	Ser	Ile	Lys	Asn	Lys	Ala	Lys	Val	Asn
Ala	Asp	Leu	Ser 340	Pro	Ala	Glu	Leu	Lys	Ala	Leu	Leu	Lys	Lys	Val	Lys

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Pro	Gly	Phe	Lys	Ser	Pro	Val	Ser	Asp	Glu	Gly	Ser	Arg	Pro	Ala	Thr		
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Lys	Glu	Gln	Glu	Gln	Ser	Val	Thr	Lys	Glu	Asn	Gln	Gln	Met	Thr	Ser		
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Glu	Leu	Ser	Glu	Leu	Arg	Leu	Gln	Leu	Gln	Lys	Val	Ser	Tyr	Glu	Ser		
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Lys	Lys	Glu	Val	Gln	Gln	Lys	Glu	Ile	Asp	Asp	Leu	Lys	Arg	Glu	Leu		
		675					680					685					
Asp	Arg	Lys	Gln	Ser	Gly	His	Glu	Lys	Leu	Ser	Ala	Ala	Met	Thr	Asp		
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Leu	Arg	Ala	Ala	Asn	Asp	Gln	Leu	Gln	Ala	Ala	Leu	Ser	Glu	Gln	Pro		
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Phe	Gln	Ala	Pro	Gln	Asp	Asn	Ser	Asp	Met	Thr	Glu	Lys	Glu	Lys	Asp		
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Ile	Glu	Arg	Thr	Arg	Lys	Ser	Met	Ala	Gln	Gln	Leu	Ala	Asp	Phe	Glu		
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770		775		780
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Phe Leu Glu Arg Asn Leu Glu Gln Leu Thr Asn Val Gln Lys Gln Leu				
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Val Glu Gln Asn Ala Ser Leu Lys Lys Glu Val Ala Leu Ala Glu Arg				
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Lys Leu Ile Ala Arg Asn Glu Arg Ile Gln Ser Leu Glu Thr Leu Leu				
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Gln Leu Ala Thr Val Arg Glu Arg Leu Glu Gln Ala Arg Ser Gln Lys				
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Ser Gln Asn Ser Leu Ala Ala Leu Asn Phe Ser Arg Ile Ala Lys Pro				
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Leu Arg Gly Asn Gly Ala Ala Ile Asp Asn Gly Ser Asp Asp Gly Ser				
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Phe Asp Arg Val Phe Pro Pro Asn Thr Thr Gln Glu Gln Val Tyr His
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Ala Cys Ala Met Gln Ile Val Lys Asp Val Leu Ala Gly Tyr Asn Gly
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Thr Ile Phe Ala Tyr Gly Gln Thr Ser Ser Gly Lys Thr His Thr Met
85 90 95
Glu Gly Lys Leu His Asp Pro Gln Leu Met Gly Ile Ile Pro Arg Ile
100 105 110
Ala Arg Asp Ile Phe Asn His Ile Tyr Ser Met Asp Glu Asn Leu Glu
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Phe His Ile Lys Val Ser Tyr Phe Glu Ile Tyr Leu Asp Lys Ile Arg
130 135 140
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Asn Arg Val Pro Phe Val Lys Gly Cys Thr Glu Arg Phe Val Ser Ser
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Lys	Thr	Gly	Ala	Glu	Gly	Ala	Val	Leu	Asp	Glu	Ala	Lys	Asn	Ile	Asn		
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Lys	Ser	Leu	Ser	Ala	Leu	Gly	Asn	Val	Ile	Ser	Ala	Leu	Ala	Glu	Gly		
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Thr	Lys	Ser	Tyr	Val	Pro	Tyr	Arg	Asp	Ser	Lys	Met	Thr	Arg	Ile	Leu		
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Lys	Val	Gln	Arg	Glu	Leu	Ser	His	Leu	Gln	Ser	Glu	Asn	Asp	Ala	Ala		
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Thr	Gln	Asp	Ala	Asp	Glu	Val	Lys	Lys	Ala	Leu	Glu	Leu	Gln	Met	Glu
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Lys	Leu	Gln	Leu	Glu	Leu	Glu	Lys	Leu	Gln	Ala	Asp	Tyr	Glu	Lys	Leu
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Lys	Ser	Glu	Glu	His	Glu	Lys	Ser	Thr	Lys	Leu	Gln	Glu	Leu	Thr	Phe
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Leu	Tyr	Glu	Arg	His	Glu	Gln	Ser	Lys	Gln	Asp	Leu	Lys	Gly	Leu	Glu
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Glu	Thr	Val	Ala	Arg	Glu	Leu	Gln	Thr	Leu	His	Asn	Leu	Arg	Lys	Leu
785					790					795					800
Phe	Val	Gln	Asp	Val	Thr	Thr	Arg	Val	Lys	Lys	Ser	Ala	Glu	Met	Glu
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Pro	Glu	Asp	Ser	Gly	Gly	Ile	His	Ser	Gln	Lys	Gln	Lys	Ile	Ser	Phe
			820					825					830		
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Ser	Pro	Ser	Ser	Tyr	Asn	Asp	Ala	Glu	Thr	Lys	Ser	Thr	Leu	Met	Phe		
305					310					315				320			
Gly	Gln	Arg	Ala	Lys	Thr	Ile	Lys	Asn	Thr	Ala	Ser	Val	Asn	Leu	Glu		
				325				330						335			
Leu	Thr	Ala	Glu	Gln	Trp	Lys	Lys	Lys	Tyr	Glu	Lys	Glu	Lys	Glu	Lys		
			340					345					350				
Thr	Lys	Ala	Gln	Lys	Glu	Thr	Ile	Ala	Asn	Val	Glu	Ala	Glu	Leu	Ser		
		355					360					365					
Arg	Trp	Arg	Asn	Gly	Glu	Asn	Val	Pro	Glu	Thr	Glu	Arg	Leu	Ala	Gly		

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370	375	380
Glu Asp Ser Ala Leu Gly	Ala Glu Leu Cys Glu	Glu Thr Pro Val Asn
385	390	395
Asp Asn Ser Ser Ile Val	Val Arg Ile Ala Pro	Glu Glu Arg Gln Lys
405	410	415
Tyr Glu Glu Glu Ile Arg	Arg Leu Tyr Lys Gln	Leu Asp Asp Lys Asp
420	425	430
Asp Glu Ile Asn Gln Gln	Ser Gln Leu Ile Glu	Lys Leu Lys Gln Gln
435	440	445
Met Leu Asp Gln Glu Glu	Leu Leu Val Ser Thr	Arg Gly Asp Asn Glu
450	455	460
Lys Val Gln Arg Glu Leu	Ser His Leu Gln Ser	Glu Asn Asp Ala Ala
465	470	475
Lys Asp Glu Val Lys Glu	Val Leu Gln Ala Leu	Glu Glu Leu Ala Val
485	490	495
Asn Tyr Asp Gln Lys Ser	Gln Glu Val Glu Glu	Lys Ser Gln Gln Asn
500	505	510
Gln Leu Leu Val Asp Glu	Leu Ser Gln Lys Val	Ala Thr Met Leu Ser
515	520	525
Leu Glu Ser Glu Leu Gln	Arg Leu Gln Glu Val	Ser Gly His Gln Arg
530	535	540
Lys Arg Ile Ala Glu Val	Leu Asn Gly Leu Met	Arg Asp Leu Ser Glu
545	550	555
Phe Ser Val Ile Val Gly	Asn Gly Glu Ile Lys	Leu Pro Val Glu Ile
565	570	575
Ser Gly Ala Ile Glu Glu	Glu Phe Thr Val Ala	Arg Leu Tyr Ile Ser
580	585	590
Lys Ile Lys Ser Glu Val	Lys Ser Val Val Lys	Arg Cys Arg Gln Leu
595	600	605
Glu Asn Leu Gln Val Glu	Cys His Arg Lys Met	Glu Val Thr Gly Arg
610	615	620
Glu Leu Ser Ser Cys Gln	Leu Leu Ile Ser Gln	His Glu Ala Lys Ile
625	630	635
Arg Ser Leu Thr Glu Tyr	Met Gln Thr Val Glu	Leu Lys Lys Arg His
645	650	655
Leu Glu Glu Ser Tyr Asp	Ser Leu Ser Asp Glu	Leu Ala Arg Leu Gln
660	665	670
Ala His Glu Thr Val His	Glu Val Ala Leu Lys	Asp Lys Glu Pro Asp
675	680	685
Thr Gln Asp Ala Glu Glu	Val Lys Lys Ala Leu	Glu Leu Gln Met Glu
690	695	700
Asn His Arg Glu Ala His	His Arg Gln Leu Ala	Arg Leu Arg Asp Glu
705	710	715
Ile Asn Glu Lys Gln Lys	Thr Ile Asp Glu Leu	Lys Asp Leu Asn Gln
725	730	735
Lys Leu Gln Leu Glu Leu	Glu Lys Leu Gln Ala	Asp Tyr Glu Arg Leu
740	745	750
Lys Asn Glu Glu Asn Glu	Lys Ser Ala Lys Leu	Gln Glu Leu Thr Phe
755	760	765
Leu Tyr Glu Arg His Glu	Gln Ser Lys Gln Asp	Leu Lys Gly Leu Glu
770	775	780
Glu Thr Val Ala Arg Glu	Leu Gln Thr Leu His	Asn Leu Arg Lys Leu
785	790	795
		800

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Phe Val Gln Asp Val Thr Thr Arg Val Lys Lys Ser Ala Glu Met Glu
805 810 815
Pro Glu Asp Ser Gly Gly Ile His Ser Gln Lys Gln Lys Ile Ser Phe
820 825 830
Leu Glu Asn Asn Leu Glu Gln Leu Thr Lys Val His Lys Gln Leu Val
835 840 845
Arg Asp Asn Ala Asp Leu Arg Cys Glu Leu Pro Lys Leu Glu Lys Arg
850 855 860
Leu Arg Ala Thr Ala Glu Arg Val Lys Ala Leu Glu Gly Ala Leu Lys
865 870 875 880
Glu Ala Lys Glu Gly Ala Met Lys Asp Lys Arg Arg Tyr Gln Gln Glu
885 890 895
Val Asp Arg Ile Lys Glu Ala Val Arg Tyr Lys Ser Ser Gly Lys Arg
900 905 910
Gly His Ser Ala Gln Ile Ala Lys Pro Val Arg Pro Gly His Tyr Pro
915 920 925
Ala Ser Ser Pro Thr Asn Pro Tyr Gly Thr Arg Ser Pro Glu Cys Ile
930 935 940
Ser Tyr Thr Asn Asn Leu Phe Gln Asn Tyr Gln Asn Leu His Leu Gln
945 950 955 960
Ala Ala Pro Ser Ser Thr Ser Asp Met Tyr Phe Ala Ser Ser Gly Arg
965 970 975
Thr Ser Val Ala Pro Leu Ala Ser Tyr Gln Lys Ala Asn Met Asp Asn
980 985 990
Gly Asn Ala Thr Asp Ile Asn Asp Asn Arg Ser Asp Leu Pro Cys Gly
995 1000 1005
Tyr Glu Ala Glu Asp Gln Ala Lys Leu Phe Pro Leu His Gln Glu Thr
1010 1015 1020
Ala Ala Ser
1025

<210> 28

<211> 1111

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 28

Met Ala Arg Ser Ser Leu Pro Asn Arg Arg Thr Ala Gln Phe Glu Ala
1 5 10 15
Asn Lys Arg Arg Thr Ile Ala His Ala Pro Ser Pro Ser Leu Ser Asn
20 25 30
Gly Met His Thr Leu Thr Pro Pro Thr Cys Asn Asn Gly Ala Ala Thr
35 40 45
Ser Asp Ser Asn Ile His Val Tyr Val Arg Cys Arg Ser Arg Asn Lys
50 55 60
Arg Glu Ile Glu Glu Lys Ser Ser Val Val Ile Ser Thr Leu Gly Pro
65 70 75 80
Gln Gly Lys Glu Ile Ile Leu Ser Asn Gly Ser His Gln Ser Tyr Ser
85 90 95
Ser Ser Lys Lys Thr Tyr Gln Phe Asp Gln Val Phe Gly Ala Glu Ser
100 105 110
Asp Gln Glu Thr Val Phe Asn Ala Thr Ala Lys Asn Tyr Ile Lys Glu
115 120 125

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Met	Leu	His	Gly	Tyr	Asn	Cys	Thr	Ile	Phe	Ala	Tyr	Gly	Gln	Thr	Gly
	130					135					140				
Thr	Gly	Lys	Thr	Tyr	Thr	Met	Ser	Gly	Asp	Ile	Asn	Ile	Leu	Gly	Asp
145					150					155					160
Val	Gln	Ser	Thr	Asp	Asn	Leu	Leu	Leu	Gly	Glu	His	Ala	Gly	Ile	Ile
				165					170					175	
Pro	Arg	Val	Leu	Val	Asp	Leu	Phe	Lys	Glu	Leu	Ser	Ser	Leu	Asn	Lys
			180					185					190		
Glu	Tyr	Ser	Val	Lys	Ile	Ser	Phe	Leu	Glu	Leu	Tyr	Asn	Glu	Asn	Leu
		195					200					205			
Lys	Asp	Leu	Leu	Ser	Asp	Ser	Glu	Asp	Asp	Asp	Pro	Ala	Val	Asn	Asp
	210					215					220				
Pro	Lys	Arg	Gln	Ile	Arg	Ile	Phe	Asp	Asn	Asn	Asn	Asn	Asn	Ser	Ser
225					230				235						240
Ile	Met	Val	Lys	Gly	Met	Gln	Glu	Ile	Phe	Ile	Asn	Ser	Ala	His	Glu
				245					250					255	
Gly	Leu	Asn	Leu	Leu	Met	Gln	Gly	Ser	Leu	Lys	Arg	Lys	Val	Ala	Ala
			260					265					270		
Thr	Lys	Cys	Asn	Asp	Leu	Ser	Ser	Arg	Ser	His	Thr	Val	Phe	Thr	Ile
		275					280					285			
Thr	Thr	Asn	Ile	Val	Glu	Gln	Asp	Ser	Lys	Asp	His	Gly	Gln	Asn	Lys
	290					295					300				
Asn	Phe	Val	Lys	Ile	Gly	Lys	Leu	Asn	Leu	Val	Asp	Leu	Ala	Gly	Ser
305					310				315						320
Glu	Asn	Ile	Asn	Arg	Ser	Gly	Ala	Glu	Asn	Lys	Arg	Ala	Gln	Glu	Ala
				325					330					335	
Gly	Leu	Ile	Asn	Lys	Ser	Leu	Leu	Thr	Leu	Gly	Arg	Val	Ile	Asn	Ala
			340					345					350		
Leu	Val	Asp	His	Ser	Asn	His	Ile	Pro	Tyr	Arg	Glu	Ser	Lys	Leu	Thr
		355					360					365			
Arg	Leu	Leu	Gln	Asp	Ser	Leu	Gly	Gly	Met	Thr	Lys	Thr	Cys	Ile	Ile
	370					375					380				
Ala	Thr	Ile	Ser	Pro	Ala	Lys	Ile	Ser	Met	Glu	Glu	Thr	Ala	Ser	Thr
385					390					395					400
Leu	Glu	Tyr	Ala	Thr	Arg	Ala	Lys	Ser	Ile	Lys	Asn	Thr	Pro	Gln	Val
				405					410					415	
Asn	Gln	Ser	Leu	Ser	Lys	Asp	Thr	Cys	Leu	Lys	Asp	Tyr	Ile	Gln	Glu
			420					425					430		
Ile	Glu	Lys	Leu	Arg	Asn	Asp	Leu	Lys	Asn	Ser	Arg	Asn	Lys	Gln	Gly
		435					440					445			
Ile	Phe	Ile	Thr	Gln	Asp	Gln	Leu	Asp	Leu	Tyr	Glu	Ser	Asn	Ser	Ile
	450					455					460				
Leu	Ile	Asp	Glu	Gln	Asn	Leu	Lys	Ile	His	Asn	Leu	Arg	Glu	Gln	Ile
465					470					475					480
Lys	Lys	Phe	Lys	Glu	Asn	Tyr	Leu	Asn	Gln	Leu	Asp	Ile	Asn	Asn	Leu
				485					490					495	
Leu	Gln	Ser	Glu	Lys	Glu	Lys	Leu	Ile	Ala	Ile	Ile	Gln	Asn	Phe	Asn
			500					505					510		
Val	Asp	Phe	Ser	Asn	Phe	Tyr	Ser	Glu	Ile	Gln	Lys	Ile	His	His	Thr
		515					520					525			
Asn	Leu	Glu	Leu	Met	Asn	Glu	Val	Ile	Gln	Gln	Arg	Asp	Phe	Ser	Leu
	530					535					540				
Glu	Asn	Ser	Gln	Lys	Gln	Tyr	Asn	Thr	Asn	Gln	Asn	Met	Gln	Leu	Lys

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545					550					555					560
Ile	Ser	Gln	Gln	Val	Leu	Gln	Thr	Leu	Asn	Thr	Leu	Gln	Gly	Ser	Leu
				565					570					575	
Asn	Asn	Tyr	Asn	Ser	Lys	Cys	Ser	Glu	Val	Ile	Lys	Gly	Val	Thr	Glu
			580					585					590		
Glu	Leu	Thr	Arg	Asn	Val	Asn	Thr	His	Lys	Ala	Lys	His	Asp	Ser	Thr
		595					600					605			
Leu	Lys	Ser	Leu	Leu	Asn	Ile	Thr	Thr	Asn	Leu	Leu	Met	Asn	Gln	Met
	610					615					620				
Asn	Glu	Leu	Val	Arg	Ser	Ile	Ser	Thr	Ser	Leu	Glu	Ile	Phe	Gln	Ser
625					630					635					640
Asp	Ser	Thr	Ser	His	Tyr	Arg	Lys	Asp	Leu	Asn	Glu	Ile	Tyr	Gln	Ser
				645					650					655	
His	Gln	Gln	Phe	Leu	Lys	Asn	Leu	Gln	Asn	Asp	Ile	Lys	Ser	Cys	Leu
			660					665					670		
Asp	Ser	Ile	Gly	Ser	Ser	Ile	Leu	Thr	Ser	Ile	Asn	Glu	Ile	Ser	Gln
		675					680					685			
Asn	Cys	Thr	Thr	Asn	Leu	Asn	Ser	Met	Asn	Val	Leu	Ile	Glu	Asn	Gln
	690					695					700				
Gln	Ser	Gly	Ser	Ser	Lys	Leu	Ile	Lys	Glu	Gln	Asp	Leu	Glu	Ile	Lys
705					710					715					720
Lys	Leu	Lys	Asn	Asp	Leu	Ile	Asn	Glu	Arg	Arg	Ile	Ser	Asn	Gln	Phe
			725					730						735	
Asn	Gln	Gln	Leu	Ala	Glu	Met	Lys	Arg	Tyr	Phe	Gln	Asp	His	Val	Ser
			740					745					750		
Arg	Thr	Arg	Ser	Glu	Phe	His	Asp	Glu	Leu	Asn	Lys	Cys	Ile	Asp	Asn
		755					760					765			
Leu	Lys	Asp	Lys	Gln	Ser	Lys	Leu	Asp	Gln	Asp	Ile	Trp	Gln	Lys	Thr
	770					775					780				
Ala	Ser	Ile	Phe	Asn	Glu	Thr	Asp	Ile	Val	Val	Asn	Lys	Ile	His	Ser
785					790					795					800
Asp	Ser	Ile	Ala	Ser	Leu	Ala	His	Asn	Ala	Glu	Asn	Thr	Leu	Lys	Thr
			805					810						815	
Val	Ser	Gln	Asn	Asn	Glu	Ser	Phe	Thr	Asn	Asp	Leu	Ile	Ser	Leu	Ser
			820					825					830		
Arg	Gly	Met	Asn	Met	Asp	Ile	Ser	Ser	Lys	Leu	Arg	Ser	Leu	Pro	Ile
		835					840					845			
Asn	Glu	Phe	Leu	Asn	Lys	Ile	Ser	Gln	Thr	Ile	Cys	Glu	Thr	Cys	Gly
	850					855					860				
Asp	Asp	Asn	Thr	Ile	Ala	Ser	Asn	Pro	Val	Leu	Thr	Ser	Ile	Lys	Lys
865					870					875					880
Phe	Gln	Asn	Ile	Ile	Cys	Ser	Asp	Ile	Ala	Leu	Thr	Asn	Glu	Lys	Ile
			885						890					895	
Met	Ser	Leu	Ile	Asp	Glu	Ile	Gln	Ser	Gln	Ile	Glu	Thr	Ile	Ser	Asn
		900						905					910		
Glu	Asn	Asn	Ile	Asn	Leu	Ile	Ala	Ile	Asn	Glu	Asn	Phe	Asn	Ser	Leu
		915					920					925			
Cys	Asn	Phe	Ile	Leu	Thr	Asp	Tyr	Asp	Glu	Asn	Ile	Met	Gln	Ile	Ser
	930					935					940				
Lys	Thr	Gln	Asp	Glu	Val	Leu	Ser	Glu	His	Cys	Glu	Lys	Leu	Gln	Ser
945					950					955					960
Leu	Lys	Ile	Leu	Gly	Met	Asp	Ile	Phe	Thr	Ala	His	Ser	Ile	Glu	Lys
				965					970					975	

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Pro Leu His Glu His Thr Arg Pro Glu Ala Ser Val Ile Lys Ala Leu
 980 985 990
 Pro Leu Leu Asp Tyr Pro Lys Gln Phe Gln Ile Tyr Arg Asp Ala Glu
 995 1000 1005
 Asn Lys Ser Lys Asp Asp Thr Ser Asn Ser Arg Thr Cys Ile Pro Asn
 1010 1015 1020
 Leu Ser Thr Asn Glu Asn Phe Pro Leu Ser Gln Phe Ser Pro Lys Thr
 1025 1030 1035 1040
 Pro Val Pro Val Pro Asp Gln Pro Leu Pro Lys Val Leu Ile Pro Lys
 1045 1050 1055
 Ser Ile Asn Ser Ala Lys Ser Asn Arg Ser Lys Thr Leu Pro Asn Thr
 1060 1065 1070
 Glu Gly Thr Gly Arg Glu Ser Gln Asn Asn Leu Lys Arg Arg Phe Thr
 1075 1080 1085
 Thr Glu Pro Ile Leu Lys Gly Glu Glu Thr Glu Asn Asn Asp Ile Leu
 1090 1095 1100
 Gln Asn Lys Lys Leu His Gln
 1105 1110

<210> 29

<211> 706

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 29

Met Ile Gln Lys Met Ser Pro Ser Leu Arg Arg Pro Ser Thr Arg Ser
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 20 25 30
 Ser Ser Phe Ser Asn Leu Thr Arg Asn Ser Ile Arg Ser Thr Ser Asn
 35 40 45
 Ser Gly Ser Gln Ser Ile Ser Ala Ser Ser Thr Arg Ser Asn Ser Pro
 50 55 60
 Leu Arg Ser Val Ser Ala Lys Ser Asp Pro Phe Leu His Pro Gly Arg
 65 70 75 80
 Ile Arg Ile Arg Arg Ser Asp Ser Ile Asn Asn Asn Ser Arg Lys Asn
 85 90 95
 Asp Thr Tyr Thr Gly Ser Ile Thr Val Thr Ile Arg Pro Lys Pro Arg
 100 105 110
 Ser Val Gly Thr Ser Arg Asp His Val Gly Leu Lys Ser Pro Arg Tyr
 115 120 125
 Ser Gln Pro Arg Ser Asn Ser His His Gly Ser Asn Thr Phe Val Arg
 130 135 140
 Asp Pro Trp Phe Ile Thr Asn Asp Lys Thr Ile Val His Glu Glu Ile
 145 150 155 160
 Gly Glu Phe Lys Phe Asp His Val Phe Ala Ser His Cys Thr Asn Leu
 165 170 175
 Glu Val Tyr Glu Arg Thr Ser Lys Pro Met Ile Asp Lys Leu Leu Met
 180 185 190
 Gly Phe Asn Ala Thr Ile Phe Ala Tyr Gly Met Thr Gly Ser Gly Lys
 195 200 205
 Thr Phe Thr Met Ser Gly Asn Glu Gln Glu Leu Gly Leu Ile Pro Leu
 210 215 220

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Ser	Val	Ser	Tyr	Leu	Phe	Thr	Asn	Ile	Met	Glu	Gln	Ser	Met	Asn	Gly
225					230					235					240
Asp	Lys	Lys	Phe	Asp	Val	Ile	Ile	Ser	Tyr	Leu	Glu	Ile	Tyr	Asn	Glu
			245						250					255	
Arg	Ile	Tyr	Asp	Leu	Leu	Glu	Ser	Gly	Leu	Glu	Glu	Ser	Gly	Ser	Arg
			260					265					270		
Ile	Ser	Thr	Pro	Ser	Arg	Leu	Tyr	Met	Ser	Lys	Ser	Asn	Ser	Asn	Gly
		275					280					285			
Leu	Gly	Val	Glu	Leu	Lys	Ile	Arg	Asp	Asp	Ser	Gln	Tyr	Gly	Val	Lys
	290					295					300				
Val	Ile	Gly	Leu	Thr	Glu	Arg	Arg	Cys	Glu	Ser	Ser	Glu	Glu	Leu	Leu
305					310					315					320
Arg	Trp	Ile	Ala	Val	Gly	Asp	Lys	Ser	Arg	Lys	Ile	Gly	Glu	Thr	Asp
				325					330					335	
Tyr	Asn	Ala	Arg	Ser	Ser	Arg	Ser	His	Ala	Ile	Val	Leu	Ile	Arg	Leu
		340						345					350		
Thr	Ser	Thr	Asn	Val	Lys	Asn	Gly	Thr	Ser	Arg	Ser	Ser	Thr	Leu	Ser
		355					360					365			
Leu	Cys	Asp	Leu	Ala	Gly	Ser	Glu	Arg	Ala	Thr	Gly	Gln	Gln	Glu	Arg
	370					375					380				
Arg	Lys	Glu	Gly	Ser	Phe	Ile	Asn	Lys	Ser	Leu	Leu	Ala	Leu	Gly	Thr
385					390					395					400
Val	Ile	Ser	Lys	Leu	Ser	Ala	Asp	Lys	Met	Asn	Ser	Val	Gly	Ser	Asn
				405				410						415	
Ile	Pro	Ser	Pro	Ser	Ala	Ser	Gly	Ser	Ser	Ser	Ser	Ser	Gly	Asn	Ala
			420					425					430		
Thr	Asn	Asn	Gly	Thr	Ser	Pro	Ser	Asn	His	Ile	Pro	Tyr	Arg	Asp	Ser
		435					440					445			
Lys	Leu	Thr	Arg	Leu	Leu	Gln	Pro	Ala	Leu	Ser	Gly	Asp	Ser	Ile	Val
	450					455					460				
Thr	Thr	Ile	Cys	Thr	Val	Asp	Thr	Arg	Asn	Asp	Ala	Ala	Ala	Glu	Thr
465					470					475					480
Met	Asn	Thr	Leu	Arg	Phe	Ala	Ser	Arg	Ala	Lys	Asn	Val	Ala	Leu	His
				485				490						495	
Val	Ser	Lys	Lys	Ser	Ile	Ile	Ser	Asn	Gly	Asn	Asn	Asp	Gly	Asp	Lys
			500					505					510		
Asp	Arg	Thr	Ile	Glu	Leu	Leu	Arg	Arg	Gln	Leu	Glu	Glu	Gln	Arg	Arg
		515					520					525			
Met	Ile	Ser	Glu	Leu	Lys	Asn	Arg	Ser	Asn	Ile	Gly	Glu	Pro	Leu	Thr
	530					535					540				
Lys	Ser	Ser	Asn	Glu	Ser	Thr	Tyr	Lys	Asp	Ile	Lys	Ala	Thr	Gly	Asn
545					550					555					560
Asp	Gly	Asp	Pro	Asn	Leu	Ala	Leu	Met	Arg	Ala	Glu	Asn	Arg	Val	Leu
				565				570						575	
Lys	Tyr	Lys	Leu	Glu	Asn	Cys	Glu	Lys	Leu	Leu	Asp	Lys	Asp	Val	Val
			580					585					590		
Asp	Leu	Gln	Asp	Ser	Glu	Ile	Met	Glu	Ile	Val	Glu	Met	Leu	Pro	Phe
		595					600					605			
Glu	Val	Gly	Thr	Leu	Leu	Glu	Thr	Lys	Phe	Gln	Gly	Leu	Glu	Ser	Gln
	610					615					620				
Ile	Arg	Gln	Tyr	Arg	Lys	Tyr	Thr	Gln	Lys	Leu	Glu	Asp	Lys	Ile	Met
625					630					635					640
Ala	Leu	Glu	Lys	Ser	Gly	His	Thr	Ala	Met	Ser	Leu	Thr	Gly	Cys	Asp

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				645					650					655			
Gly	Thr	Glu	Val	Ile	Glu	Leu	Gln	Lys	Met	Leu	Glu	Arg	Lys	Asp	Lys		
			660						665					670			
Met	Ile	Glu	Ala	Leu	Gln	Ser	Ala	Lys	Arg	Leu	Arg	Asp	Arg	Ala	Leu		
		675					680					685					
Lys	Pro	Leu	Ile	Asn	Thr	Gln	Gln	Ser	Pro	His	Pro	Val	Val	Asp	Asn		
	690					695					700						
Asp	Lys																
705																	

<210> 30

<211> 540

<212> PRT

<213> Caenorhabditis elegans

<400> 30

Met	Ser	Asn	Met	Ser	Gln	Asp	Asp	Val	Thr	Thr	Gly	Leu	Arg	Thr	Val		
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Gln	Gln	Gly	Leu	Glu	Ala	Leu	Arg	Glu	Glu	His	Ser	Thr	Ile	Ser	Asn		
			20					25					30				
Thr	Leu	Glu	Thr	Ser	Val	Lys	Gly	Val	Lys	Glu	Asp	Glu	Ala	Pro	Leu		
		35					40					45					
Pro	Lys	Gln	Lys	Leu	Ser	Gln	Ile	Asn	Asp	Asn	Leu	Asp	Lys	Leu	Val		
	50					55					60						
Cys	Gly	Val	Asp	Glu	Thr	Ser	Leu	Met	Leu	Met	Val	Phe	Gln	Leu	Thr		
65				70					75					80			
Gln	Gly	Met	Asp	Ala	Gln	His	Gln	Lys	Tyr	Gln	Ala	Gln	Arg	Arg	Arg		
				85				90						95			
Leu	Cys	Gln	Glu	Asn	Ala	Trp	Leu	Arg	Asp	Glu	Leu	Ser	Ser	Thr	Gln		
			100					105					110				
Ile	Lys	Leu	Gln	Gln	Ser	Glu	Gln	Met	Val	Ala	Gln	Leu	Glu	Glu	Glu		
		115				120					125						
Asn	Lys	His	Leu	Lys	Tyr	Met	Ala	Ser	Ile	Lys	Gln	Leu	Asp	Asp	Gly		
	130					135					140						
Thr	Gln	Ser	Asp	Thr	Lys	Thr	Ser	Val	Asp	Val	Gly	Pro	Gln	Pro	Val		
145				150					155					160			
Thr	Asn	Glu	Thr	Leu	Gln	Glu	Leu	Gly	Phe	Gly	Pro	Glu	Asp	Glu	Glu		
			165					170						175			
Asp	Met	Asn	Ala	Ser	Gln	Phe	Asn	Gln	Pro	Thr	Pro	Ala	Asn	Gln	Met		
			180					185					190				
Ala	Ala	Ser	Ala	Asn	Val	Gly	Tyr	Glu	Ile	Pro	Ala	Arg	Leu	Arg	Thr		
		195				200					205						
Leu	His	Asn	Leu	Val	Ile	Gln	Tyr	Ala	Ser	Gln	Gly	Arg	Tyr	Glu	Val		
	210					215					220						
Ala	Val	Pro	Leu	Cys	Lys	Gln	Ala	Leu	Glu	Asp	Leu	Glu	Lys	Thr	Ser		
225				230					235					240			
Gly	His	Asp	His	Pro	Asp	Val	Ala	Thr	Met	Leu	Asn	Ile	Leu	Ala	Leu		
			245					250					255				
Val	Tyr	Arg	Asp	Gln	Asn	Lys	Tyr	Lys	Glu	Ala	Ala	Asn	Leu	Leu	Asn		
			260					265					270				
Glu	Ala	Leu	Ser	Ile	Arg	Glu	Lys	Cys	Leu	Gly	Glu	Ser	His	Pro	Ala		
		275				280						285					
Val	Ala	Ala	Thr	Leu	Asn	Asn	Leu	Ala	Val	Leu	Phe	Gly	Lys	Arg	Gly		

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290	295	300
Lys Phe Lys Asp Ala Glu Pro Leu Cys Lys Arg Ala Leu Glu Ile Arg		
305	310	315
Glu Lys Val Leu Gly Asp Asp His Pro Asp Val Ala Lys Gln Leu Asn		
	325	330
Asn Leu Ala Leu Leu Cys Gln Asn Gln Gly Lys Tyr Glu Glu Val Glu		
	340	345
Lys Tyr Tyr Lys Arg Ala Leu Glu Ile Tyr Glu Ser Lys Leu Gly Pro		
	355	360
Asp Asp Pro Asn Val Ala Lys Thr Lys Asn Asn Leu Ser Ser Ala Tyr		
	370	375
Leu Lys Gln Gly Lys Tyr Lys Glu Ala Glu Glu Leu Tyr Lys Gln Ile		
385	390	395
Leu Thr Arg Ala His Glu Arg Glu Phe Gly Gln Ile Ser Gly Glu Asn		
	405	410
Lys Pro Ile Trp Gln Ile Ala Glu Glu Arg Glu Glu Asn Lys His Lys		
	420	425
Gly Glu Gly Ala Thr Ala Asn Glu Gln Ala Gly Trp Ala Lys Ala Ala		
	435	440
Lys Val Asp Ser Pro Thr Val Thr Thr Thr Leu Lys Asn Leu Gly Ala		
	450	455
Leu Tyr Arg Arg Gln Gly Lys Tyr Glu Ala Ala Glu Thr Leu Glu Asp		
465	470	475
Val Ala Leu Arg Ala Lys Lys Gln His Glu Pro Leu Arg Ser Gly Ala		
	485	490
Met Gly Gly Ile Asp Glu Met Ser Gln Ser Met Met Ala Ser Thr Ile		
	500	505
Gly Gly Ser Arg Asn Ser Met Thr Thr Ser Thr Ser Gln Thr Gly Leu		
	515	520
Lys Asn Lys Leu Met Asn Ala Leu Gly Phe Asn Ser		
530	535	540

<210> 31

<211> 508

<212> PRT

<213> Drosophila melanogaster

<400> 31

Met Thr Gln Met Ser Gln Asp Glu Ile Ile Thr Asn Thr Lys Thr Val
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Leu Gln Gly Leu Glu Ala Leu Arg Val Glu His Val Ser Ile Met Asn
20 25 30
Gly Ile Ala Glu Val Gln Lys Asp Asn Glu Lys Ser Asp Met Leu Arg
35 40 45
Lys Asn Ile Glu Asn Ile Glu Leu Gly Leu Ser Glu Ala Gln Val Met
50 55 60
Met Ala Leu Thr Ser His Leu Gln Asn Ile Glu Ala Glu Lys His Lys
65 70 75 80
Leu Lys Thr Gln Val Arg Arg Leu His Gln Glu Asn Ala Trp Leu Arg
85 90 95
Asp Glu Leu Ala Asn Thr Gln Gln Lys Phe Gln Ala Ser Glu Gln Leu
100 105 110
Val Ala Gln Leu Glu Glu Glu Lys Lys His Leu Glu Phe Met Ala Ser

		115					120					125			
Val	Lys	Lys	Tyr	Asp	Glu	Asn	Gln	Glu	Gln	Asp	Asp	Ala	Cys	Asp	Lys
	130					135					140				
Ser	Arg	Thr	Asp	Pro	Val	Val	Glu	Leu	Phe	Pro	Asp	Glu	Glu	Asn	Glu
145					150					155					160
Asp	Arg	His	Asn	Met	Ser	Pro	Thr	Pro	Pro	Ser	Gln	Phe	Ala	Asn	Gln
				165					170					175	
Thr	Ser	Gly	Tyr	Glu	Ile	Pro	Ala	Arg	Leu	Arg	Thr	Leu	His	Asn	Leu
			180					185					190		
Val	Ile	Gln	Tyr	Ala	Ser	Gln	Gly	Arg	Tyr	Glu	Val	Ala	Val	Pro	Leu
		195					200					205			
Cys	Lys	Gln	Ala	Leu	Glu	Asp	Leu	Glu	Arg	Thr	Ser	Gly	His	Asp	His
	210					215					220				
Pro	Asp	Val	Ala	Thr	Met	Leu	Asn	Ile	Leu	Ala	Leu	Val	Tyr	Arg	Asp
225					230					235					240
Gln	Asn	Lys	Tyr	Lys	Glu	Ala	Ala	Asn	Leu	Leu	Asn	Asp	Ala	Leu	Ser
				245					250					255	
Ile	Arg	Gly	Lys	Thr	Leu	Gly	Glu	Asn	His	Pro	Ala	Val	Ala	Ala	Thr
			260					265					270		
Leu	Asn	Asn	Leu	Ala	Val	Leu	Tyr	Gly	Lys	Arg	Gly	Lys	Tyr	Lys	Asp
		275					280					285			
Ala	Glu	Pro	Leu	Cys	Lys	Arg	Ala	Leu	Glu	Ile	Arg	Glu	Lys	Val	Leu
	290					295					300				
Gly	Lys	Asp	His	Pro	Asp	Val	Ala	Lys	Gln	Leu	Asn	Asn	Leu	Ala	Leu
305					310					315					320
Leu	Cys	Gln	Asn	Gln	Gly	Lys	Tyr	Asp	Glu	Val	Glu	Lys	Tyr	Tyr	Gln
				325					330					335	
Arg	Ala	Leu	Asp	Ile	Tyr	Glu	Ser	Lys	Leu	Gly	Pro	Asp	Asp	Pro	Asn
			340					345					350		
Val	Ala	Lys	Thr	Lys	Asn	Asn	Leu	Ala	Gly	Cys	Tyr	Leu	Lys	Gln	Gly
		355					360					365			
Arg	Tyr	Thr	Glu	Ala	Glu	Ile	Leu	Tyr	Lys	Gln	Val	Leu	Thr	Arg	Ala
	370					375					380				
His	Glu	Arg	Glu	Phe	Gly	Ala	Ile	Asp	Ser	Lys	Asn	Lys	Pro	Ile	Trp
385					390					395					400
Gln	Val	Ala	Glu	Glu	Arg	Glu	Glu	His	Lys	Phe	Asp	Asn	Arg	Glu	Asn
				405					410					415	
Thr	Pro	Tyr	Gly	Glu	Tyr	Gly	Gly	Trp	His	Lys	Ala	Ala	Lys	Val	Asp
			420					425					430		
Ser	Pro	Thr	Val	Thr	Thr	Thr	Leu	Lys	Asn	Leu	Gly	Ala	Leu	Tyr	Arg
		435					440					445			
Arg	Gln	Gly	Met	Phe	Glu	Ala	Ala	Glu	Thr	Leu	Glu	Asp	Cys	Ala	Met
	450					455					460				
Arg	Ser	Lys	Lys	Glu	Ala	Tyr	Asp	Leu	Ala	Lys	Gln	Thr	Lys	Leu	Ser

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<213> Loligo pealeii

<400> 32

Met	Glu	Val	Thr	Gln	Thr	Val	Lys	Ser	Tyr	Arg	Ile	Lys	Lys	Ile	Glu
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Glu	Ile	Gly	Lys	Met	Thr	Ala	Leu	Ser	Gln	Glu	Glu	Ile	Ile	Ser	Asn
			20					25					30		
Thr	Lys	Thr	Val	Ile	Gln	Gly	Leu	Asp	Thr	Leu	Lys	Asn	Glu	His	Asn
		35					40					45			
Gln	Ile	Leu	Asn	Ser	Leu	Leu	Thr	Ser	Met	Lys	Thr	Ile	Arg	Lys	Glu
	50					55					60				
Asn	Gly	Asp	Thr	Asn	Leu	Val	Glu	Glu	Lys	Ala	Asn	Ile	Leu	Lys	Lys
65					70					75					80
Ser	Val	Asp	Ser	Ile	Glu	Leu	Gly	Leu	Gly	Glu	Ala	Gln	Val	Met	Met
			85						90					95	
Ala	Leu	Ala	Asn	His	Leu	Gln	His	Thr	Glu	Ala	Glu	Lys	Gln	Lys	Leu
			100					105					110		
Arg	Ala	Gln	Val	Arg	Arg	Leu	Cys	Gln	Glu	Asn	Ala	Trp	Leu	Arg	Asp
		115					120					125			
Glu	Leu	Ala	Asn	Thr	Gln	Gln	Lys	Leu	Gln	Met	Ser	Glu	Gln	Lys	Val
	130					135					140				
Ala	Thr	Ile	Glu	Glu	Glu	Lys	Lys	His	Leu	Glu	Phe	Met	Asn	Glu	Met
145					150					155					160
Lys	Lys	Tyr	Asp	Thr	Asn	Glu	Ala	Gln	Val	Asn	Glu	Glu	Lys	Glu	Ser
			165						170					175	
Glu	Gln	Ser	Ser	Leu	Asp	Leu	Gly	Phe	Pro	Asp	Asp	Asp	Asp	Asp	Gly
		180						185					190		
Gly	Gln	Pro	Glu	Val	Leu	Ser	Pro	Thr	Gln	Pro	Ser	Ala	Met	Ala	Gln
		195					200					205			
Ala	Ala	Ser	Gly	Gly	Cys	Glu	Ile	Pro	Ala	Arg	Leu	Arg	Thr	Leu	His
	210					215					220				
Asn	Leu	Val	Ile	Gln	Tyr	Ala	Ser	Gln	Gly	Arg	Tyr	Glu	Val	Ala	Val
225					230					235					240
Pro	Leu	Cys	Lys	Gln	Ala	Leu	Glu	Asp	Leu	Glu	Lys	Thr	Ser	Gly	His
			245						250					255	
Asp	His	Pro	Asp	Val	Ala	Thr	Met	Leu	Asn	Ile	Leu	Ala	Leu	Val	Tyr
		260						265					270		
Arg	Asp	Gln	Gly	Lys	Tyr	Lys	Glu	Ala	Ala	Asn	Leu	Leu	Asn	Asp	Ala
		275					280					285			
Leu	Gly	Ile	Arg	Glu	Lys	Thr	Leu	Gly	Pro	Asp	His	Pro	Ala	Val	Ala
	290					295					300				
Ala	Thr	Leu	Asn	Asn	Leu	Ala	Val	Leu	Tyr	Gly	Lys	Arg	Gly	Lys	Tyr
305					310					315					320
Lys	Asp	Ala	Glu	Pro	Leu	Cys	Lys	Arg	Ala	Leu	Val	Ile	Arg	Glu	Lys
			325						330					335	
Val	Leu	Gly	Lys	Asp	His	Pro	Asp	Val	Ala	Lys	Gln	Leu	Asn	Asn	Leu
		340						345					350		
Ala	Leu	Leu	Cys	Gln	Asn	Gln	Gly	Lys	Tyr	Glu	Glu	Val	Glu	Arg	Tyr
		355					360					365			
Tyr	Gln	Arg	Ala	Leu	Glu	Ile	Tyr	Gln	Lys	Glu	Leu	Gly	Pro	Asp	Asp
	370					375					380				
Pro	Asn	Val	Ala	Lys	Thr	Lys	Asn	Asn	Leu	Ala	Ser	Ala	Tyr	Leu	Lys
385					390					395					400

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Gln Gly Lys Tyr Lys Gln Ala Glu Ile Leu Tyr Lys Glu Val Leu Thr
 405 410 415
 Arg Ala His Glu Lys Glu Phe Gly Lys Val Asp Asp Asp Asn Lys Pro
 420 425 430
 Ile Trp Met Gln Ala Glu Glu Arg Glu Glu Asn Lys Ala Lys Tyr Lys
 435 440 445
 Asp Gly Ala Pro Gln Pro Asp Tyr Gly Ser Trp Leu Lys Ala Val Lys
 450 455 460
 Val Asp Ser Pro Thr Val Thr Thr Thr Leu Lys Asn Leu Gly Ala Leu
 465 470 475 480
 Tyr Arg Arg Gln Gly Lys Tyr Glu Ala Ala Glu Thr Leu Glu Glu Cys
 485 490 495
 Ala Leu Arg Ser Arg Lys Ser Ala Leu Glu Val Val Arg Gln Thr Lys
 500 505 510
 Ile Ser Asp Val Leu Gly Ser Asp Phe Ser Lys Gly Gln Ser Pro Lys
 515 520 525
 Asp Arg Lys Arg Ser Asn Ser Arg Asp Arg Asn Arg Arg Asp Ser Met
 530 535 540
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 Ser Lys Leu His Val Gly Thr Ser His Lys Gln
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<210> 33

<211> 686

<212> PRT

<213> Strongylocentrotus purpuratus

<400> 33

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 Lys Gly Leu Glu Gln Leu Lys Asn Glu His Asn Asp Ile Leu Asn Ser
 35 40 45
 Leu Tyr Gln Ser Leu Lys Met Leu Lys Lys Asp Thr Pro Gly Asp Ser
 50 55 60
 Asn Leu Val Glu Glu Lys Thr Asp Ile Ile Glu Lys Ser Leu Glu Ser
 65 70 75 80
 Leu Glu Leu Gly Leu Gly Glu Ala Lys Val Met Met Ala Leu Gly His
 85 90 95
 His Leu Asn Met Val Glu Ala Glu Lys Gln Lys Leu Arg Ala Gln Val
 100 105 110
 Arg Arg Leu Val Gln Glu Asn Thr Trp Leu Arg Asp Glu Leu Ala Ala
 115 120 125
 Thr Gln Gln Lys Leu Gln Thr Ser Glu Gln Asn Leu Ala Asp Leu Glu
 130 135 140
 Val Lys Tyr Lys His Leu Glu Tyr Met Asn Ser Ile Lys Lys Tyr Asp
 145 150 155 160
 Glu Asp Arg Thr Pro Asp Glu Glu Ala Ser Ser Ser Asp Pro Leu Asp
 165 170 175
 Leu Gly Phe Pro Glu Asp Asp Asp Gly Gly Gln Ala Asp Glu Ser Tyr
 180 185 190

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Pro	Gln	Pro	Gln	Thr	Gly	Ser	Gly	Ser	Val	Ser	Ala	Ala	Ala	Gly	Gly
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Tyr	Glu	Ile	Pro	Ala	Arg	Leu	Arg	Thr	Leu	His	Asn	Leu	Val	Ile	Gln
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Tyr	Ala	Ser	Gln	Ser	Arg	Tyr	Glu	Val	Ala	Val	Pro	Leu	Cys	Lys	Gln
225					230					235					240
Ala	Leu	Glu	Asp	Leu	Glu	Lys	Thr	Ser	Gly	His	Asp	His	Pro	Asp	Val
			245						250					255	
Ala	Thr	Met	Leu	Asn	Ile	Leu	Ala	Leu	Val	Tyr	Arg	Asp	Gln	Asn	Lys
			260						265				270		
Tyr	Lys	Glu	Ala	Gly	Asn	Leu	Leu	His	Asp	Ala	Leu	Ala	Ile	Arg	Glu
		275					280					285			
Lys	Thr	Leu	Gly	Pro	Asp	His	Pro	Ala	Val	Ala	Ala	Thr	Leu	Asn	Asn
	290					295					300				
Leu	Ala	Val	Leu	Tyr	Gly	Lys	Arg	Gly	Lys	Tyr	Lys	Glu	Ala	Glu	Pro
305					310					315					320
Leu	Cys	Lys	Arg	Ala	Leu	Glu	Ile	Arg	Glu	Lys	Val	Leu	Gly	Lys	Asp
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His	Pro	Asp	Val	Ala	Lys	Gln	Leu	Asn	Asn	Leu	Ala	Leu	Leu	Cys	Gln
			340					345					350		
Asn	Gln	Gly	Lys	Tyr	Glu	Glu	Val	Glu	Trp	Tyr	Tyr	Gln	Arg	Ala	Leu
		355					360					365			
Glu	Ile	Tyr	Glu	Lys	Lys	Leu	Gly	Pro	Asp	Asp	Pro	Asn	Val	Ala	Lys
	370					375					380				
Thr	Lys	Asn	Asn	Leu	Ala	Ala	Ala	Tyr	Leu	Lys	Gln	Gly	Lys	Tyr	Lys
385					390					395					400
Ala	Ala	Glu	Thr	Leu	Tyr	Lys	Gln	Val	Leu	Thr	Arg	Ala	His	Glu	Arg
				405					410					415	
Glu	Phe	Gly	Leu	Ser	Ala	Asp	Asp	Lys	Asp	Asn	Lys	Pro	Ile	Trp	Met
			420					425					430		
Gln	Ala	Glu	Glu	Arg	Glu	Glu	Lys	Gly	Lys	Phe	Lys	Asp	Asn	Ala	Pro
		435					440					445			
Tyr	Gly	Asp	Tyr	Gly	Gly	Trp	His	Lys	Ala	Ala	Lys	Val	Asp	Ser	Arg
	450					455					460				
Ser	Arg	Ser	Ser	Pro	Thr	Val	Thr	Thr	Thr	Leu	Lys	Asn	Leu	Gly	Ala
465					470					475					480
Leu	Tyr	Arg	Arg	Gln	Gly	Lys	Tyr	Asp	Ala	Ala	Glu	Ile	Leu	Glu	Glu
				485					490					495	
Cys	Ala	Met	Lys	Ser	Arg	Arg	Asn	Ala	Leu	Asp	Met	Val	Arg	Glu	Thr
			500					505					510		
Lys	Val	Arg	Glu	Leu	Leu	Gly	Gln	Asp	Leu	Ser	Thr	Asp	Val	Pro	Arg
		515					520					525			
Ser	Glu	Ala	Met	Ala	Lys	Glu	Arg	His	His	Arg	Arg	Ser	Ser	Gly	Thr
	530					535					540				
Pro	Arg	His	Gly	Ser	Thr	Glu	Ser	Val	Ser	Tyr	Glu	Lys	Thr	Asp	Gly
545					550					555					560
Ser	Glu	Glu	Val	Ser	Ile	Gly	Val	Ala	Trp	Lys	Ala	Lys	Arg	Lys	Ala
				565					570					575	
Lys	Asp	Arg	Ser	Arg	Ser	Ile	Pro	Ala	Gly	Tyr	Val	Glu	Ile	Pro	Arg
			580					585					590		
Ser	Pro	Pro	His	Val	Leu	Val	Glu	Asn	Gly	Asp	Gly	Lys	Leu	Arg	Arg
		595					600					605			
Ser	Gly	Ser	Leu	Ser	Lys	Leu	Arg	Ala	Ser	Val	Arg	Arg	Ser	Ser	Thr

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610		615		620	
Lys Leu Leu Asn Lys Leu Lys Gly Arg Glu Ser Asp Asp Asp Gly Gly					
625		630		635	640
Met Lys Arg Ala Ser Ser Met Ser Val Leu Pro Ser Arg Gly Asn Asp					
		645		650	655
Glu Ser Thr Pro Ala Pro Ile Gln Leu Ser Gln Arg Gly Arg Val Gly					
		660		665	670
Ser His Asp Asn Leu Ser Ser Arg Arg Gln Ser Gly Asn Phe					
		675		680	685

<210> 34

<211> 452

<212> PRT

<213> Gallus gallus

<400> 34

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	20
Pro Leu Gly Ser Gly Leu Gly Arg His Gly Ala Ala Asp Thr Ala Cys	
	35
Lys Asn Arg Pro Leu Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser	
	50
Val Arg Pro Glu Glu Phe Glu Lys Val Lys Ile Phe Leu Ser Lys Met	
65	70
Ile Asp Thr Leu Asp Val Gly Glu Arg Thr Thr Arg Val Ala Val Met	
	85
Asn Tyr Ala Ser Thr Val Lys Val Glu Phe Pro Leu Arg Thr Tyr Phe	
	100
Asp Lys Ala Ser Met Lys Glu Ala Val Ser Arg Ile Gln Pro Leu Ser	
	115
Ala Gly Thr Met Thr Gly Leu Ala Ile Gln Ala Ala Met Asp Glu Val	
	130
Phe Thr Glu Glu Met Gly Thr Arg Pro Ala Asn Phe Asn Ile Pro Lys	
145	150
Val Val Ile Ile Val Thr Asp Gly Arg Pro Gln Asp Gln Val Glu Asn	
	165
Val Ala Ala Asn Ala Arg Thr Ala Gly Ile Glu Ile Tyr Ala Val Gly	
	180
Val Gly Arg Ala Asp Met Gln Ser Leu Arg Ile Met Ala Ser Glu Pro	
	195
Leu Asp Glu His Val Phe Tyr Val Glu Thr Tyr Gly Val Ile Glu Lys	
	210
Leu Thr Ser Lys Phe Arg Glu Thr Phe Cys Ala Ala Asn Thr Cys Ala	
225	230
Leu Gly Thr His Asp Cys Glu Gln Val Cys Val Ser Asn Asp Gly Ser	
	245
Tyr Leu Cys Asp Cys Tyr Glu Gly Tyr Thr Leu Asn Pro Asp Lys Arg	
	260
Thr Cys Ser Ala Val Asp Val Cys Ala Pro Gly Arg His Glu Cys Asp	
	275
Gln Ile Cys Val Ser Asn Asn Gly Ser Tyr Val Cys Glu Cys Phe Glu	
	280

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290		295		300
Gly Tyr Thr Leu Asn Pro Asp Lys Lys Thr Cys Ser Ala Met Asp Val				
305		310		315
Cys Ala Pro Gly Arg His Asp Cys Ala Gln Val Cys Arg Arg Asn Gly				320
		325		330
Gly Ser Tyr Ser Cys Asp Cys Phe Glu Gly Phe Thr Leu Asn Pro Asp				335
		340		345
Lys Lys Thr Cys Ser Ala Val Asp Val Cys Ala Pro Gly Arg His Asp				350
		355		360
Cys Glu Gln Val Cys Val Arg Asp Asp Leu Phe Tyr Thr Cys Asp Cys				365
		370		375
Tyr Gln Gly Tyr Val Leu Asn Pro Asp Lys Lys Thr Cys Ser Arg Ala				380
385		390		395
Thr Thr Ser Ser Leu Val Thr Asp Glu Glu Ala Cys Lys Cys Glu Ala				400
		405		410
Ile Ala Ala Leu Gln Asp Ser Val Thr Ser Arg Leu Glu Ala Leu Ser				415
		420		425
Thr Lys Leu Asp Glu Val Ser Gln Lys Leu Gln Ala Tyr Gln Asp Arg				430
		435		440
Gln Gln Val Val				445
450				

<210> 35

<211> 486

<212> PRT

<213> Homo sapiens

<400> 35

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		20		25
Arg Pro Gly Phe Arg Arg Leu Glu Thr Arg Gly Pro Gly Gly Ser Pro				30
		35		40
Gly Arg Arg Pro Ser Pro Ala Ala Pro Asp Gly Ala Pro Ala Ser Gly				45
		50		55
Thr Ser Glu Pro Gly Arg Ala Arg Gly Ala Gly Val Cys Lys Ser Arg				60
65		70		75
Pro Leu Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser Val Arg Pro				80
		85		90
Leu Glu Phe Thr Lys Val Lys Thr Phe Val Ser Arg Ile Ile Asp Thr				95
		100		105
Leu Asp Ile Gly Pro Ala Asp Thr Arg Val Ala Val Val Asn Tyr Ala				110
		115		120
Ser Thr Val Lys Ile Glu Phe Gln Leu Gln Ala Tyr Thr Asp Lys Gln				125
		130		135
Ser Leu Lys Gln Ala Val Gly Arg Ile Thr Pro Leu Ser Thr Gly Thr				140
145		150		155
Met Ser Gly Leu Ala Ile Gln Thr Ala Met Asp Glu Ala Phe Thr Val				160
		165		170
Glu Ala Gly Ala Arg Glu Pro Ser Ser Asn Ile Pro Lys Val Ala Ile				175
		180		185
Ile Val Thr Asp Gly Arg Pro Gln Asp Gln Val Asn Glu Val Ala Ala				190

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<210> 36
<211> 481
<212> PRT
<213> Mus musculus
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<400> 36

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			20					25					30		
Ala	Arg	Ala	Ser	Val	Arg	Arg	Leu	Gly	Thr	Arg	Val	Pro	Gly	Gly	Ser
		35					40					45			
Pro	Gly	His	Leu	Ser	Ala	Leu	Ala	Thr	Ser	Thr	Arg	Ala	Pro	Tyr	Ser
	50					55					60				
Gly	Gly	Arg	Gly	Ala	Gly	Val	Cys	Lys	Ser	Arg	Pro	Leu	Asp	Leu	Val

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65					70					75					80
Phe	Ile	Ile	Asp	Ser	Ser	Arg	Ser	Val	Arg	Pro	Leu	Glu	Phe	Thr	Lys
				85					90					95	
Val	Lys	Thr	Phe	Val	Ser	Arg	Ile	Ile	Asp	Thr	Leu	Asp	Ile	Gly	Ala
			100					105					110		
Thr	Asp	Thr	Arg	Val	Ala	Val	Val	Asn	Tyr	Ala	Ser	Thr	Val	Lys	Ile
		115					120					125			
Glu	Phe	Gln	Leu	Asn	Thr	Tyr	Ser	Asp	Lys	Gln	Ala	Leu	Lys	Gln	Ala
	130					135				140					
Val	Ala	Arg	Ile	Thr	Pro	Leu	Ser	Thr	Gly	Thr	Met	Ser	Gly	Leu	Ala
145					150					155					160
Ile	Gln	Thr	Ala	Met	Glu	Glu	Ala	Phe	Thr	Val	Glu	Ala	Gly	Ala	Arg
				165				170						175	
Gly	Pro	Met	Ser	Asn	Ile	Pro	Lys	Val	Ala	Ile	Ile	Val	Thr	Asp	Gly
			180					185					190		
Arg	Pro	Gln	Asp	Gln	Val	Asn	Glu	Val	Ala	Ala	Arg	Ala	Arg	Ala	Ser
		195					200					205			
Gly	Ile	Glu	Leu	Tyr	Ala	Val	Gly	Val	Asp	Arg	Ala	Asp	Met	Glu	Ser
	210					215					220				
Leu	Lys	Met	Met	Ala	Ser	Lys	Pro	Leu	Glu	Glu	His	Val	Phe	Tyr	Val
225					230					235					240
Glu	Thr	Tyr	Gly	Val	Ile	Glu	Lys	Leu	Ser	Ala	Arg	Phe	Gln	Glu	Thr
				245					250					255	
Phe	Cys	Ala	Leu	Asp	Gln	Cys	Met	Leu	Gly	Thr	His	Gln	Cys	Gln	His
			260					265					270		
Val	Cys	Val	Ser	Asp	Gly	Asp	Gly	Lys	His	His	Cys	Glu	Cys	Ser	Gln
		275					280					285			
Gly	Tyr	Thr	Leu	Asn	Ala	Asp	Gly	Lys	Thr	Cys	Ser	Ala	Ile	Asp	Lys
	290					295					300				
Cys	Ala	Leu	Ser	Thr	His	Gly	Cys	Glu	Gln	Ile	Cys	Ile	Asn	Asp	Arg
305					310					315					320
Asn	Gly	Ser	Tyr	His	Cys	Glu	Cys	Tyr	Gly	Gly	Tyr	Ala	Leu	Asn	Ala
				325					330					335	
Asp	Arg	Arg	Thr	Cys	Ala	Ala	Leu	Asp	Lys	Cys	Ala	Ser	Gly	Thr	His
			340					345					350		
Gly	Cys	Gln	His	Ile	Cys	Val	Asn	Asp	Gly	Ala	Gly	Ser	His	His	Cys
		355					360					365			
Glu	Cys	Phe	Glu	Gly	Tyr	Thr	Leu	Asn	Ala	Asp	Lys	Lys	Thr	Cys	Ser
	370					375					380				
Val	Arg	Asn	Lys	Cys	Ala	Leu	Gly	Thr	His	Gly	Cys	Gln	His	Ile	Cys
385					390					395					400
Val	Ser	Asp	Gly	Ala	Val	Ala	Tyr	His	Cys	Asp	Cys	Phe	Pro	Gly	Tyr
				405					410					415	
Thr	Leu	Asn	Asp	Asp	Lys	Lys	Thr	Cys	Ser	Asp	Ile	Glu	Glu	Ala	Arg
		420						425					430		
Ser	Leu	Ile	Ser	Ile	Glu	Asp	Ala	Cys	Gly	Cys	Gly	Ala	Thr	Leu	Ala
		435					440					445			
Phe	Gln	Glu	Lys	Val	Ser	Ser	His	Leu	Gln	Lys	Leu	Asn	Thr	Lys	Leu
	450					455					460				
Asp	Asn	Ile	Leu	Lys	Lys	Leu	Lys	Val	Thr	Glu	Tyr	Gly	Gln	Val	His
465					470					475					480
Arg															

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Thr	Phe	Lys	Ser	Val	Leu	Ser	Lys	Gly	Gln	Gly	Glu	Thr	Ser	Arg	Tyr
370						375					380				
Arg	Phe	Leu	Gly	Lys	Tyr	Gly	Gly	Tyr	Cys	Trp	Ile	Leu	Ser	Gln	Ala
385					390					395					400
Thr	Ile	Val	Tyr	Asp	Lys	Leu	Lys	Pro	Gln	Ser	Val	Val	Cys	Val	Asn
				405					410						415
Tyr	Val	Ile	Ser	Asn	Leu	Glu	Asn	Lys	His	Glu	Ile	Tyr	Ser	Leu	Ala
			420					425					430		
Gln	Gln	Thr	Ala	Ala	Ser	Glu	Gln	Lys	Glu	Gln	His	His	Gln	Ala	Ala
		435					440					445			
Glu	Thr	Glu	Lys	Glu	Pro	Glu	Lys	Ala	Ala	Asp	Pro	Glu	Ile	Ile	Ala
	450					455					460				
Gln	Glu	Thr	Lys	Glu	Thr	Val	Asn	Thr	Pro	Ile	His	Thr	Ser	Glu	Leu
465					470					475					480
Gln	Ala	Lys	Pro	Leu	Gln	Leu	Glu	Ser	Glu	Lys	Ala	Glu	Lys	Thr	Ile
				485					490						495
Glu	Glu	Thr	Lys	Thr	Ile	Ala	Thr	Ile	Pro	Pro	Val	Thr	Ala	Thr	Ser
			500					505					510		
Thr	Ala	Asp	Gln	Ile	Lys	Gln	Leu	Pro	Glu	Ser	Asn	Pro	Tyr	Lys	Gln
		515					520					525			
Ile	Leu	Gln	Ala	Glu	Leu	Leu	Ile	Lys	Arg	Glu	Asn	His	Ser	Pro	Gly
	530					535					540				
Pro	Arg	Thr	Ile	Thr	Ala	Gln	Leu	Leu	Ser	Gly	Ser	Ser	Ser	Gly	Leu
545					550					555					560
Arg	Pro	Glu	Glu	Lys	Arg	Pro	Lys	Ser	Val	Thr	Ala	Ser	Val	Leu	Arg
				565					570					575	
Pro	Ser	Pro	Ala	Pro	Pro	Leu	Thr	Pro	Pro	Pro	Thr	Ala	Val	Leu	Cys
			580					585					590		
Lys	Lys	Thr	Pro	Leu	Gly	Val	Glu	Pro	Asn	Leu	Pro	Pro	Thr	Thr	Thr
		595					600					605			
Ala	Thr	Ala	Ala	Ile	Ile	Ser	Ser	Ser	Asn	Gln	Gln	Leu	Gln	Ile	Ala
	610					615					620				
Gln	Gln	Thr	Gln	Leu	Gln	Asn	Pro	Gln	Gln	Pro	Ala	Gln	Asp	Met	Ser
625					630					635					640
Lys	Gly	Phe	Cys	Ser	Leu	Phe	Ala	Asp	Asp	Gly	Arg	Gly	Leu	Thr	Met
				645					650					655	
Leu	Lys	Glu	Glu	Pro	Asp	Asp	Leu	Ser	His	His	Leu	Ala	Ser	Thr	Asn
			660					665					670		
Cys	Ile	Gln	Leu	Asp	Glu	Met	Thr	Pro	Phe	Ser	Asp	Met	Leu	Val	Gly
		675					680				685				
Leu	Met	Gly	Thr	Cys	Leu	Leu	Pro	Glu	Asp	Ile	Asn	Ser	Leu	Asp	Ser
	690					695					700				
Thr	Thr	Cys	Ser	Thr	Thr	Ala	Ser	Gly	Gln	His	Tyr	Gln	Ser	Pro	Ser
705					710					715					720
Ser	Ser	Ser	Thr	Ser	Ala	Pro	Ser	Asn	Thr	Ser	Ser	Ser	Asn	Asn	Ser
				725					730					735	
Tyr	Ala	Asn	Ser	Pro	Leu	Ser	Pro	Leu	Thr	Pro	Asn	Ser	Thr	Ala	Thr
			740					745					750		
Ala	Ser	Asn	Pro	Ser	His	Gln	Gln	Gln	Gln	His	His	Asn	Gln	Gln	
		755					760				765				
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	His	His	Pro	Gln	His	His	Asp	Asn
	770					775					780				
Ser	Asn	Ser	Ser	Ser	Asn	Ile	Asp	Pro	Leu	Phe	Asn	Tyr	Arg	Glu	Glu

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785				790					795				800		
Ser	Asn	Asp	Thr	Ser	Cys	Ser	Gln	His	Leu	His	Ser	Pro	Ser	Ile	Thr
				805					810					815	
Ser	Lys	Ser	Pro	Glu	Asp	Ser	Ser	Leu	Pro	Ser	Leu	Cys	Ser	Pro	Asn
			820					825					830		
Ser	Leu	Thr	Gln	Glu	Asp	Asp	Phe	Ser	Phe	Glu	Ala	Phe	Ala	Met	Arg
		835					840					845			
Ala	Pro	Tyr	Ile	Pro	Ile	Asp	Asp	Asp	Met	Pro	Leu	Leu	Thr	Glu	Thr
	850					855					860				
Asp	Leu	Met	Trp	Cys	Pro	Pro	Glu	Asp	Leu	Gln	Thr	Met	Val	Pro	Lys
865					870					875					880
Glu	Ile	Asp	Ala	Ile	Gln	Gln	Gln	Leu	Gln	Gln	Leu	Gln	Gln	Gln	His
				885					890						895
His	Gln	Gln	Tyr	Ala	Gly	Asn	Thr	Gly	Tyr	Gln	Gln	Gln	Gln	Gln	Gln
			900					905						910	
Pro	Gln	Leu	Gln	Gln	Gln	His	Phe	Ser	Asn	Ser	Leu	Cys	Ser	Ser	Pro
		915					920					925			
Ala	Ser	Thr	Val	Ser	Ser	Leu	Ser	Pro	Ser	Pro	Val	Gln	Gln	His	His
	930					935					940				
Gln	Gln	Gln	Gln	Ala	Ala	Val	Phe	Thr	Ser	Asp	Ser	Ser	Glu	Leu	Ala
945					950					955					960
Ala	Leu	Leu	Cys	Gly	Ser	Gly	Asn	Gly	Thr	Leu	Ser	Ile	Leu	Ala	Gly
			965						970					975	
Ser	Gly	Val	Thr	Val	Ala	Glu	Glu	Cys	Asn	Glu	Arg	Leu	Gln	Gln	His
			980					985					990		
Gln	Gln	Gln	Gln	Gln	Gln	Thr	Ser	Gly	Asn	Glu	Phe	Arg	Thr	Phe	Gln
			995				1000					1005			
Gln	Leu	Gln	Gln	Glu	Leu	Gln	Leu	Gln	Glu	Glu	Gln	Gln	Gln	Arg	Gln
	1010					1015					1020				
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Leu	Leu
1025					1030					1035					1040
Ser	Leu	Asn	Ile	Glu	Cys	Lys	Lys	Glu	Lys	Tyr	Asp	Val	Gln	Met	Gly
			1045						1050					1055	
Gly	Ser	Leu	Cys	His	Pro	Met	Glu	Asp	Ala	Phe	Glu	Asn	Asp	Tyr	Ser
			1060					1065					1070		
Lys	Asp	Ser	Ala	Asn	Leu	Asp	Cys	Trp	Asp	Leu	Ile	Gln	Met	Gln	Val
		1075					1080					1085			
Val	Asp	Thr	Glu	Pro	Val	Ser	Pro	Asn	Ala	Ala	Ser	Pro	Thr	Pro	Cys
	1090					1095						1100			
Lys	Val	Ser	Ala	Ile	Gln	Leu	Leu	Gln	Gln	Gln	Gln	Gln	Leu	Gln	Gln
1105					1110					1115					1120
Gln	Gln	Gln	Gln	Gln	Gln	Asn	Ile	Ile	Leu	Asn	Ala	Val	Pro	Leu	Ile
				1125					1130					1135	
Thr	Ile	Gln	Asn	Asn	Lys	Glu	Leu	Met	Gln	Gln	Gln	Gln	Gln	Gln	Gln
			1140					1145						1150	
Gln	Gln	Gln	Gln	Gln	Glu	Gln	Leu	Gln	Gln	Pro	Ala	Ile	Lys	Leu	Leu
		1155					1160					1165			
Asn	Gly	Ala	Ser	Ile	Ala	Pro	Val	Asn	Thr	Lys	Ala	Thr	Ile	Arg	Leu
	1170					1175					1180				
Val	Glu	Ser	Lys	Pro	Pro	Thr	Thr	Thr	Gln	Ser	Arg	Met	Ala	Lys	Val
1185					1190						1195				1200
Asn	Leu	Val	Pro	Gln	Gln	Gln	Gln	His	Gly	Asn	Lys	Arg	His	Leu	Asn
				1205					1210					1215	

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Ser Ala Thr Gly Ala Gly Asn Pro Val Glu Ser Lys Arg Leu Lys Ser
 1220 1225 1230
 Gly Thr Leu Cys Leu Asp Val Gln Ser Pro Gln Leu Leu Gln Gln Leu
 1235 1240 1245
 Ile Gly Lys Asp Pro Ala Gln Gln Gln Thr Gln Ala Ala Lys Arg Ala
 1250 1255 1260
 Gly Ser Glu Arg Trp Gln Leu Ser Ala Glu Ser Lys Gln Gln Lys Gln
 1265 1270 1275 1280
 Gln Gln Gln Gln Ser Asn Ser Val Leu Lys Asn Leu Leu Val Ser Gly
 1285 1290 1295
 Arg Asp Asp Asp Asp Ser Glu Ala Met Ile Ile Asp Glu Asp Asn Ser
 1300 1305 1310
 Leu Val Gln Pro Ile Pro Leu Gly Lys Tyr Gly Leu Pro Leu His Cys
 1315 1320 1325
 His Thr Ser Thr Ser Ser Val Leu Arg Asp Tyr His Asn Asn Pro Leu
 1330 1335 1340
 Ile Ser Gly Thr Asn Phe Gln Leu Ser Pro Val Phe Gly Gly Ser Asp
 1345 1350 1355 1360
 Ser Ser Gly Gly Asp Gly Glu Thr Gly Ser Val Val Ser Leu Asp Asp
 1365 1370 1375
 Ser Val Pro Pro Gly Leu Thr Ala Cys Asp Thr Asp Ala Ser Ser Asp
 1380 1385 1390
 Ser Gly Ile Asp Glu Asn Ser Leu Met Asp Gly Ala Ser Gly Ser Pro
 1395 1400 1405
 Arg Lys Arg Leu Ser Ser Thr Ser Asn Ser Thr Asn Gln Ala Glu Ser
 1410 1415 1420
 Ala Pro Pro Ala Leu Asp Val Glu Thr Pro Val Thr Gln Lys Ser Val
 1425 1430 1435 1440
 Glu Glu Glu Phe Glu Gly Gly Gly Ser Gly Ser Asn Ala Pro Ser Arg
 1445 1450 1455
 Lys Thr Ser Ile Ser Phe Leu Asp Ser Ser Asn Pro Leu Leu His Thr
 1460 1465 1470
 Pro Ala Met Met Asp Leu Val Asn Asp Asp Tyr Ile Met Gly Glu Gly
 1475 1480 1485
 Gly Phe Glu Phe Ser Asp Asn Gln Leu Glu Gln Val Leu Gly Trp Pro
 1490 1495 1500
 Glu Ile Ala
 1505

<210> 38

<211> 879

<212> PRT

<213> Homo sapiens

<400> 38

Met Ala Gly Gly Gly Gly Asp Leu Ser Thr Arg Arg Leu Asn Glu Cys
 1 5 10 15
 Ile Ser Pro Val Ala Asn Glu Met Asn His Leu Pro Ala His Ser His
 20 25 30
 Asp Leu Gln Arg Met Phe Thr Glu Asp Gln Gly Val Asp Asp Arg Leu
 35 40 45
 Leu Tyr Asp Ile Val Phe Lys His Phe Lys Arg Asn Lys Val Glu Ile
 50 55 60

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Ser	Asn	Ala	Ile	Lys	Lys	Thr	Phe	Pro	Phe	Leu	Glu	Gly	Leu	Arg	Asp	65	70	75	80
Arg	Asp	Leu	Ile	Thr	Asn	Lys	Met	Phe	Glu	Asp	Ser	Gln	Asp	Ser	Cys		85	90	95
Arg	Asn	Leu	Val	Pro	Val	Gln	Arg	Val	Val	Tyr	Asn	Val	Leu	Ser	Glu		100	105	110
Leu	Glu	Lys	Thr	Phe	Asn	Leu	Pro	Val	Leu	Glu	Ala	Leu	Phe	Ser	Asp		115	120	125
Val	Asn	Met	Gln	Glu	Tyr	Pro	Asp	Leu	Ile	His	Ile	Tyr	Lys	Gly	Phe		130	135	140
Glu	Asn	Val	Ile	His	Asp	Lys	Leu	Pro	Leu	Gln	Glu	Ser	Glu	Glu	Glu	145	150	155	160
Glu	Arg	Glu	Glu	Arg	Ser	Gly	Leu	Gln	Leu	Ser	Leu	Glu	Gln	Gly	Thr		165	170	175
Gly	Glu	Asn	Ser	Phe	Arg	Ser	Leu	Thr	Trp	Pro	Pro	Ser	Gly	Ser	Pro		180	185	190
Ser	His	Ala	Gly	Thr	Thr	Pro	Pro	Glu	Asn	Gly	Leu	Ser	Glu	His	Pro		195	200	205
Cys	Glu	Thr	Glu	Gln	Ile	Asn	Ala	Lys	Arg	Lys	Asp	Thr	Thr	Ser	Asp	210	215	220	
Lys	Asp	Asp	Ser	Leu	Gly	Ser	Gln	Gln	Thr	Asn	Glu	Gln	Cys	Ala	Gln	225	230	235	240
Lys	Ala	Glu	Pro	Thr	Glu	Ser	Cys	Glu	Gln	Ile	Ala	Val	Gln	Val	Asn		245	250	255
Asn	Gly	Asp	Ala	Gly	Arg	Glu	Met	Pro	Cys	Pro	Leu	Pro	Cys	Asp	Glu		260	265	270
Glu	Ser	Pro	Glu	Ala	Glu	Leu	His	Asn	His	Gly	Ile	Gln	Ile	Asn	Ser		275	280	285
Cys	Ser	Val	Arg	Leu	Val	Asp	Ile	Lys	Lys	Glu	Lys	Pro	Phe	Ser	Asn	290	295	300	
Ser	Lys	Val	Glu	Cys	Gln	Ala	Gln	Ala	Arg	Thr	His	His	Asn	Gln	Ala	305	310	315	320
Ser	Asp	Ile	Ile	Val	Ile	Ser	Ser	Glu	Asp	Ser	Glu	Gly	Ser	Thr	Asp		325	330	335
Val	Asp	Glu	Pro	Leu	Glu	Val	Phe	Ile	Ser	Ala	Pro	Arg	Ser	Glu	Pro		340	345	350
Val	Ile	Asn	Asn	Asp	Asn	Pro	Leu	Glu	Ser	Asn	Asp	Glu	Lys	Glu	Gly		355	360	365
Gln	Glu	Ala	Thr	Cys	Ser	Arg	Pro	Gln	Ile	Val	Pro	Glu	Pro	Met	Asp	370	375	380	
Phe	Arg	Lys	Leu	Ser	Thr	Phe	Arg	Glu	Ser	Phe	Lys	Lys	Arg	Val	Ile	385	390	395	400
Gly	Gln	Asp	His	Asp	Phe	Ser	Glu	Ser	Ser	Glu	Glu	Glu	Ala	Pro	Ala		405	410	415
Glu	Ala	Ser	Ser	Gly	Ala	Leu	Arg	Ser	Lys	His	Gly	Glu	Lys	Ala	Pro		420	425	430
Met	Thr	Ser	Arg	Ser	Thr	Ser	Thr	Trp	Arg	Ile	Pro	Ser	Arg	Lys	Arg		435	440	445
Arg	Phe	Ser	Ser	Ser	Asp	Phe	Ser	Asp	Leu	Ser	Asn	Gly	Glu	Glu	Leu	450	455	460	
Gln	Glu	Thr	Cys	Ser	Ser	Ser	Leu	Arg	Arg	Gly	Ser	Gly	Ser	Gln	Pro	465	470	475	480
Gln	Glu	Pro	Glu	Asn	Lys	Lys	Cys	Ser	Cys	Val	Met	Cys	Phe	Pro	Lys				

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				485					490					495			
Gly	Val	Pro	Arg	Ser	Gln	Glu	Ala	Arg	Thr	Glu	Ser	Ser	Gln	Ala	Ser		
			500					505					510				
Asp	Met	Met	Asp	Thr	Met	Asp	Val	Glu	Asn	Asn	Ser	Thr	Leu	Glu	Lys		
		515					520					525					
His	Ser	Gly	Lys	Arg	Arg	Lys	Lys	Arg	Arg	His	Arg	Ser	Lys	Val	Asn		
	530					535					540						
Gly	Leu	Gln	Arg	Gly	Arg	Lys	Lys	Asp	Arg	Pro	Arg	Lys	His	Leu	Thr		
545					550					555					560		
Leu	Asn	Asn	Lys	Val	Gln	Lys	Lys	Arg	Trp	Gln	Gln	Arg	Gly	Arg	Lys		
				565					570					575			
Ala	Asn	Thr	Arg	Pro	Leu	Lys	Arg	Arg	Arg	Lys	Arg	Gly	Pro	Arg	Ile		
			580					585					590				
Pro	Lys	Asp	Glu	Asn	Ile	Asn	Phe	Lys	Gln	Ser	Glu	Leu	Pro	Val	Thr		
		595					600					605					
Cys	Gly	Glu	Val	Lys	Gly	Thr	Leu	Tyr	Lys	Glu	Arg	Phe	Lys	Gln	Gly		
	610					615					620						
Thr	Ser	Lys	Lys	Cys	Ile	Gln	Ser	Glu	Asp	Lys	Lys	Trp	Phe	Thr	Pro		
625					630					635					640		
Arg	Glu	Phe	Glu	Ile	Glu	Gly	Asp	Arg	Gly	Ala	Ser	Lys	Asn	Trp	Lys		
				645					650					655			
Leu	Ser	Ile	Arg	Cys	Gly	Gly	Tyr	Thr	Leu	Lys	Val	Leu	Met	Glu	Asn		
			660					665					670				
Lys	Phe	Leu	Pro	Glu	Pro	Pro	Ser	Thr	Arg	Lys	Lys	Arg	Ile	Leu	Glu		
		675					680					685					
Ser	His	Asn	Asn	Thr	Leu	Val	Asp	Pro	Cys	Glu	Glu	His	Lys	Lys	Lys		
	690					695					700						
Asn	Pro	Asp	Ala	Ser	Val	Lys	Phe	Ser	Glu	Phe	Leu	Lys	Lys	Cys	Ser		
705					710					715					720		
Glu	Thr	Trp	Lys	Thr	Ile	Phe	Ala	Lys	Glu	Lys	Gly	Lys	Phe	Glu	Asp		
				725					730					735			
Met	Ala	Lys	Ala	Asp	Lys	Ala	His	Tyr	Glu	Arg	Glu	Met	Lys	Thr	Tyr		
			740					745					750				
Ile	Pro	Pro	Lys	Gly	Glu	Lys	Lys	Lys	Lys	Phe	Lys	Asp	Pro	Asn	Ala		
		755					760					765					
Pro	Lys	Arg	Pro	Pro	Leu	Ala	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Tyr	Arg		
	770					775					780						
Pro	Lys	Ile	Lys	Gly	Glu	His	Pro	Gly	Leu	Ser	Ile	Asp	Asp	Val	Val		
785					790					795					800		
Lys	Lys	Leu	Ala	Gly	Met	Trp	Asn	Asn	Thr	Ala	Ala	Ala	Asp	Lys	Gln		
				805					810					815			
Phe	Tyr	Glu	Lys	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Lys	Lys	Asp		
			820					825					830				
Ile	Ala	Ala	Tyr	Arg	Ala	Lys	Gly	Lys	Pro	Asn	Ser	Ala	Lys	Lys	Arg		
		835					840				845						
Val	Val	Lys	Ala	Glu	Lys	Ser	Lys	Lys	Lys	Lys	Glu	Glu	Glu	Glu	Asp		
	850					855					860						
Glu	Glu	Asp	Glu	Gln	Glu	Glu	Glu	Asn	Glu	Glu	Asp	Asp	Asp	Lys			
865					870					875							

<210> 39

<211> 284

<212> PRT

<213> Gallus gallus

<400> 39

Met	Glu	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
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Asn	Ala	Ile	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Gln	Ala
			20					25					30		
Glu	Asp	Arg	Cys	Lys	Gln	Leu	Glu	Glu	Glu	Gln	Gln	Gly	Leu	Gln	Lys
		35				40					45				
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Val	Glu	Lys	Tyr	Ser	Glu	Ser	Val
	50				55						60				
Lys	Glu	Ala	Gln	Glu	Lys	Leu	Glu	Gln	Ala	Glu	Lys	Lys	Ala	Thr	Asp
65					70				75						80
Ala	Glu	Ala	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115				120						125			
Val	Ile	Glu	Asn	Arg	Ala	Met	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln
	130					135					140				
Glu	Met	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145				150					155						160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Val	Leu	Glu	Gly	Glu	Leu
				165				170						175	
Glu	Arg	Ser	Glu	Glu	Arg	Ala	Glu	Val	Ala	Glu	Ser	Arg	Val	Arg	Gln
		180						185					190		
Leu	Glu	Glu	Glu	Leu	Arg	Thr	Met	Asp	Gln	Ser	Leu	Lys	Ser	Leu	Ile
		195					200					205			
Ala	Ser	Glu	Glu	Glu	Tyr	Ser	Thr	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210					215					220				
Ile	Lys	Leu	Leu	Gly	Glu	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225				230					235						240
Phe	Ala	Glu	Arg	Ser	Val	Ala	Lys	Leu	Glu	Lys	Thr	Ile	Asp	Asp	Leu
				245				250						255	
Glu	Glu	Ser	Leu	Ala	Ser	Ala	Lys	Glu	Glu	Asn	Val	Gly	Ile	His	Gln
		260						265					270		
Val	Leu	Asp	Gln	Thr	Leu	Leu	Glu	Leu	Asn	Asn	Leu				
		275					280								

<210> 40

<211> 284

<212> PRT

<213> Homo sapiens

<400> 40

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
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Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Ala	Ala
		20						25					30		
Glu	Asp	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Glu	Leu	Val	Ser	Leu	Gln	Lys
		35				40					45				
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ala	Leu

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50		55		60												
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Glu	Lys	Lys	Ala	Thr	Asp	
65					70					75					80	
Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu	
				85					90					95		
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys	
			100					105					110			
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys	
		115					120					125				
Val	Ile	Glu	Ser	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln	
	130					135					140					
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Asp	Ala	Asp	Arg	
145				150				155							160	
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Ser	Asp	Leu	
				165				170						175		
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Gly	Lys	Cys	Ala	Glu	
		180					185						190			
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu	
		195					200					205				
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Arg	Tyr	Glu	Glu	Glu	
	210					215					220					
Ile	Lys	Val	Leu	Ser	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu	
225				230					235						240	
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu	
			245					250					255			
Glu	Asp	Glu	Leu	Tyr	Ala	Gln	Lys	Leu	Lys	Tyr	Lys	Ala	Ile	Ser	Glu	
		260					265						270			
Glu	Leu	Asp	His	Ala	Leu	Asn	Asp	Met	Thr	Ser	Ile					
	275					280										

<210> 41

<211> 284

<212> PRT

<213> Gallus gallus

<400> 41

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu	
1				5				10						15		
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Ala	Ala	
		20					25					30				
Glu	Glu	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Asp	Ile	Val	Gln	Leu	Glu	Lys	
		35				40						45				
Gln	Leu	Arg	Val	Thr	Glu	Asp	Ser	Arg	Asp	Gln	Val	Leu	Glu	Glu	Leu	
	50					55				60						
His	Lys	Ser	Glu	Asp	Ser	Leu	Leu	Ser	Ala	Glu	Glu	Asn	Ala	Ala	Lys	
65				70				75							80	
Ala	Glu	Ser	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu	
			85					90					95			
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys	
		100					105					110				
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys	
	115					120					125					
Val	Ile	Glu	Asn	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln	

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130		135		140													
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg		
145					150					155					160		
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Leu	Glu	Gly	Asp	Leu		
				165						170				175			
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Ser	Lys	Cys	Ala	Glu		
			180					185					190				
Leu	Glu	Glu	Glu	Leu	Lys	Leu	Val	Thr	Asn	Glu	Ala	Lys	Ser	Leu	Glu		
	195						200					205					
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu		
	210						215					220					
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu		
225					230					235					240		
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu		
				245					250					255			
Glu	Glu	Lys	Val	Ala	His	Ala	Lys	Glu	Glu	Asn	Leu	Asn	Met	His	Gln		
			260					265					270				
Met	Leu	Asp	Gln	Thr	Leu	Leu	Glu	Leu	Asn	Asn	Met						
		275					280										

<210> 42

<211> 248

<212> PRT

<213> Gallus gallus

<400> 42

Met	Ala	Gly	Ile	Ser	Ser	Ile	Asp	Ala	Val	Lys	Lys	Lys	Ile	Gln	Ser		
1				5					10					15			
Leu	Gln	Gln	Val	Ala	Asp	Glu	Ala	Glu	Glu	Arg	Ala	Glu	His	Leu	Gln		
			20					25					30				
Arg	Glu	Ala	Asp	Ala	Glu	Arg	Gln	Ala	Arg	Glu	Arg	Ala	Glu	Ala	Glu		
		35				40						45					
Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu	Glu	Glu	Leu	Asp		
	50				55					60							
Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys	Leu	Glu	Glu	Ala		
65				70				75						80			
Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys	Val	Ile	Glu	Asn		
			85					90					95				
Arg	Ala	Met	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln	Glu	Met	Gln	Leu		
		100					105						110				
Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg	Lys	Tyr	Glu	Glu		
	115					120						125					
Val	Ala	Arg	Lys	Leu	Val	Val	Leu	Glu	Gly	Glu	Leu	Glu	Arg	Ser	Glu		
	130				135					140							
Glu	Arg	Ala	Glu	Val	Ala	Glu	Ser	Arg	Val	Arg	Gln	Leu	Glu	Glu	Glu		
145				150					155						160		
Leu	Arg	Thr	Met	Asp	Gln	Ser	Leu	Lys	Ser	Leu	Ile	Ala	Ser	Glu	Glu		
			165					170						175			
Glu	Tyr	Ser	Thr	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu	Ile	Lys	Leu	Leu		
		180					185						190				
Gly	Glu	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu	Phe	Ala	Glu	Arg		
	195					200					205						
Ser	Val	Ala	Lys	Leu	Glu	Lys	Thr	Ile	Asp	Asp	Leu	Glu	Glu	Ser	Leu		

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210		215		220
Ala Ser Ala Lys Glu	Glu Asn Val Gly Ile His	Gln Val Leu Asp Gln		
225	230	235		240
Thr Leu Leu Glu Leu	Asn Asn Leu			
	245			

<210> 43
 <211> 284
 <212> PRT
 <213> Homo sapiens

<400> 43	
Met Glu Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu	
1 5 10 15	
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Glu Gln Lys Gln Ala	
20 25 30	
Glu Glu Arg Ser Lys Gln Leu Glu Asp Glu Leu Ala Ala Met Gln Lys	
35 40 45	
Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ala Leu	
50 55 60	
Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Glu Lys Lys Ala Ala Asp	
65 70 75 80	
Ala Glu Ala Glu Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu	
85 90 95	
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys	
100 105 110	
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys	
115 120 125	
Val Ile Glu Asn Arg Ala Leu Lys Asp Glu Glu Lys Met Glu Leu Gln	
130 135 140	
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg	
145 150 155 160	
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu	
165 170 175	
Glu Arg Thr Glu Glu Arg Ala Glu Leu Ala Glu Ser Lys Cys Ser Glu	
180 185 190	
Leu Glu Glu Glu Leu Lys Asn Val Thr Asn Asn Leu Lys Ser Leu Glu	
195 200 205	
Ala Gln Ala Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu	
210 215 220	
Ile Lys Ile Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu	
225 230 235 240	
Phe Ala Glu Arg Ser Val Ala Lys Leu Glu Lys Thr Ile Asp Asp Leu	
245 250 255	
Glu Asp Glu Leu Tyr Ala Gln Lys Leu Lys Tyr Lys Ala Ile Ser Glu	
260 265 270	
Glu Leu Asp His Ala Leu Asn Asp Met Thr Ser Ile	
275 280	

<210> 44
 <211> 245
 <212> PRT
 <213> Gallus gallus

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<400> 44

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Met Ala Ala Leu Ser Ser Leu Glu Ala Val Arg Lys Lys Ile Arg Ser
 1          5          10          15
Leu Gln Glu Gln Ala Asp Ala Ala Glu Glu Arg Ala Gly Lys Leu Gln
          20          25          30
Arg Glu Val Asp Gln Glu Arg Ala Leu Arg Glu Glu Ala Glu Ser Glu
          35          40          45
Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu Glu Glu Leu Asp
 50          55          60
Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys Leu Glu Glu Ala
65          70          75          80
Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Asn
          85          90          95
Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln Glu Ile Gln Leu
          100          105          110
Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg Lys Tyr Glu Glu
          115          120          125
Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu Glu Arg Ala Glu
          130          135          140
Glu Arg Ala Glu Leu Ser Glu Ser Lys Cys Ala Glu Leu Glu Glu Glu
145          150          155          160
Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu Ala Gln Ala Glu
          165          170          175
Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu Ile Lys Val Leu
          180          185          190
Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg
          195          200          205
Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu Glu Asp Gln Leu
          210          215          220
Tyr Gln Gln Leu Glu Gln Asn Ser Arg Leu Thr Asn Glu Leu Lys Leu
225          230          235          240
Ala Leu Asn Glu Asp
          245

```

<210> 45

<211> 281

<212> PRT

<213> Gallus gallus

<400> 45

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Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1          5          10          15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
          20          25          30
Glu Glu Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ala Leu Gln Lys
          35          40          45
Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ser Leu
 50          55          60
Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Asp Lys Lys Ala Thr Asp
65          70          75          80
Ala Glu Ser Glu Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
          85          90          95

```

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Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln
	130					135					140				
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145					150					155					160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Gly	Asp	Leu
				165					170					175	
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Ser	Lys	Cys	Ala	Glu
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210					215					220				
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230					235					240
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Gln	Leu	Tyr	Gln	Gln	Leu	Glu	Gln	Asn	Ser	Arg	Leu	Thr	Asn
			260					265					270		
Glu	Leu	Lys	Leu	Ala	Leu	Asn	Glu	Asp							
		275					280								

<210> 46

<211> 284

<212> PRT

<213> Brachydanio rerio

<400> 46

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
1				5					10					15	
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Thr	Asp	Lys	Lys	Ala	Ala
		20						25					30		
Glu	Glu	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Asp	Leu	Val	Ala	Leu	Gln	Lys
	35					40					45				
Lys	Leu	Lys	Ala	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ala	Leu
	50					55				60					
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Glu	Lys	Lys	Ala	Thr	Asp
65				70					75						80
Ala	Glu	Gly	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85				90						95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
		100						105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Leu	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln
	130					135					140				
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145					150					155					160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Val	Glu	Gly	Glu	Leu
				165					170					175	

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Glu	Arg	Thr	Glu	Glu	Arg	Ala	Glu	Leu	Asn	Glu	Gly	Lys	Cys	Ser	Glu
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Met	Lys	Ser	Leu	Glu
			195				200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Ala	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
			210				215					220			
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230					235					240
Phe	Ala	Glu	Arg	Ser	Val	Ala	Lys	Leu	Glu	Lys	Thr	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Glu	Leu	Tyr	Ala	Gln	Lys	Leu	Lys	Tyr	Lys	Ala	Ile	Ser	Glu
			260					265					270		
Glu	Leu	Asp	His	Ala	Leu	Asn	Asp	Met	Thr	Ser	Ile				
			275				280								

<210> 47

<211> 284

<212> PRT

<213> Coturnix coturnix japonica

<400> 47

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
1				5					10					15	
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Ala	Ala
			20					25					30		
Glu	Glu	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Glu	Leu	Val	Ala	Leu	Gln	Lys
		35				40					45				
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ser	Leu
	50					55					60				
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Asp	Lys	Lys	Ala	Thr	Asp
65					70					75					80
Ala	Glu	Ser	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln
	130					135						140			
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145					150					155					160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Gly	Asp	Leu
				165					170					175	
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Ser	Lys	Cys	Ala	Glu
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
		210					215					220			
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230					235					240
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu
				245					250					255	

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Glu Asp Glu Leu Tyr Ala Gln Lys Leu Lys Tyr Lys Ala Ile Ser Glu
 260 265 270
 Glu Leu Asp His Ala Leu Asn Asp Met Thr Ser Ile
 275 280

<210> 48
 <211> 284
 <212> PRT
 <213> Mus musculus

<400> 48
 Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1 5 10 15
 Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
 20 25 30
 Glu Asp Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ser Leu Gln Lys
 35 40 45
 Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ala Leu
 50 55 60
 Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Glu Lys Lys Ala Thr Asp
 65 70 75 80
 Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
 85 90 95
 Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
 100 105 110
 Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
 115 120 125
 Val Ile Glu Ser Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
 130 135 140
 Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg
 145 150 155 160
 Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu
 165 170 175
 Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Gly Lys Cys Ala Glu
 180 185 190
 Leu Glu Glu Glu Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu
 195 200 205
 Ala Gln Ala Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
 210 215 220
 Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
 225 230 235 240
 Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
 245 250 255
 Glu Asp Glu Leu Tyr Ala Gln Lys Leu Lys Tyr Lys Ala Ile Ser Glu
 260 265 270
 Glu Leu Asp His Ala Leu Asn Asp Met Thr Ser Ile
 275 280

<210> 49
 <211> 284
 <212> PRT
 <213> Rana temporaria

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<400> 49

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Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1          5          10          15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Gly Ala
 20          25          30
Glu Asp Lys Ser Lys Gln Leu Glu Asp Glu Leu Val Ala Met Gln Lys
 35          40          45
Lys Met Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ala Leu
 50          55          60
Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Glu Lys Lys Ala Thr Asp
 65          70          75          80
Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
 85          90          95
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
100          105          110
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
115          120          125
Val Ile Glu Asn Arg Ala Leu Lys Asp Glu Glu Lys Ile Glu Leu Gln
130          135          140
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg
145          150          155          160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu
165          170          175
Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Ser Lys Cys Ala Glu
180          185          190
Leu Glu Glu Glu Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu
195          200          205
Ala Gln Ala Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
210          215          220
Ile Lys Val Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225          230          235          240
Phe Ala Glu Arg Thr Val Ala Lys Leu Glu Lys Ser Ile Asp Asp Leu
245          250          255
Glu Asp Glu Leu Tyr Ala Gln Lys Leu Lys Tyr Lys Ala Ile Ser Glu
260          265          270
Glu Leu Asp His Ala Leu Asn Asp Met Thr Ser Ile
275          280

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<210> 50

<211> 284

<212> PRT

<213> Rattus norvegicus

<400> 50

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Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1          5          10          15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
 20          25          30
Glu Asp Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ser Leu Gln Lys
 35          40          45
Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ala Leu
 50          55          60
Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Glu Lys Lys Ala Thr Asp

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65					70					75				80	
Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Ser	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln
	130					135					140				
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Asp	Ala	Asp	Arg
145					150				155						160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Ser	Asp	Leu
				165					170					175	
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Gly	Lys	Cys	Ala	Glu
		180						185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210						215				220				
Ile	Lys	Val	Leu	Ser	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230				235						240
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Glu	Leu	Tyr	Ala	Gln	Lys	Leu	Lys	Tyr	Lys	Ala	Ile	Ser	Glu
		260						265					270		
Glu	Leu	Asp	His	Ala	Leu	Lys	Asp	Met	Thr	Ser	Ile				
		275					280								

<210> 51

<211> 284

<212> PRT

<213> *Xenopus laevis*

<400> 51

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
1				5					10					15	
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Gly	Ala
		20						25					30		
Glu	Asp	Lys	Ser	Lys	Gln	Leu	Glu	Asp	Glu	Leu	Val	Ala	Leu	Gln	Lys
	35					40					45				
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ala	Leu
	50					55					60				
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ser	Asp	Lys	Lys	Ala	Thr	Asp
65					70					75					80
Ala	Glu	Gly	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ser	Thr	Ala	Leu	Gln	Lys
		100						105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Leu	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln
	130					135					140				
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg

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145					150					155				160	
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Gly	Asp	Leu
				165					170					175	
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Ser	Lys	Cys	Ala	Glu
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210					215					220				
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230					235					240
Phe	Ala	Glu	Arg	Thr	Val	Ala	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Glu	Leu	Tyr	Ala	Gln	Lys	Leu	Lys	Tyr	Lys	Ala	Ile	Ser	Glu
			260					265					270		
Glu	Leu	Asp	His	Ala	Leu	Asn	Asp	Met	Thr	Ser	Ile				
		275					280								

<210> 52

<211> 284

<212> PRT

<213> Gallus gallus

<400> 52

Met	Glu	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
1				5				10					15		
Asn	Ala	Ile	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Gln	Ala
			20					25					30		
Glu	Asp	Arg	Cys	Lys	Gln	Leu	Glu	Glu	Glu	Gln	Gln	Gly	Leu	Gln	Lys
		35				40						45			
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Val	Glu	Lys	Tyr	Ser	Glu	Ser	Val
	50					55					60				
Lys	Glu	Ala	Gln	Glu	Lys	Leu	Glu	Gln	Ala	Glu	Lys	Lys	Ala	Thr	Asp
65					70					75				80	
Ala	Glu	Ala	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Met	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln
	130					135						140			
Glu	Met	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145					150					155					160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Val	Leu	Glu	Gly	Glu	Leu
				165					170					175	
Glu	Arg	Ser	Glu	Glu	Arg	Ala	Glu	Val	Ala	Glu	Ser	Lys	Cys	Gly	Asp
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Ile	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Asp	Lys	Tyr	Ser	Thr	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210					215					220				
Ile	Lys	Leu	Leu	Gly	Glu	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu

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225					230					235					240
Phe	Ala	Glu	Arg	Ser	Val	Ala	Lys	Leu	Glu	Lys	Thr	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Glu	Val	Tyr	Ala	Gln	Lys	Met	Lys	Tyr	Lys	Ala	Ile	Ser	Glu
			260					265					270		
Glu	Leu	Asp	Asn	Ala	Leu	Asn	Asp	Ile	Thr	Ser	Leu				
		275					280								

<210> 53
 <211> 284
 <212> PRT
 <213> Homo sapiens

<400> 53

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu
1				5				10					15		
Asn	Ala	Ile	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Gln	Ala
			20					25					30		
Glu	Asp	Arg	Cys	Lys	Gln	Leu	Glu	Glu	Glu	Gln	Gln	Ala	Leu	Gln	Lys
		35				40						45			
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Val	Glu	Lys	Tyr	Ser	Glu	Ser	Val
	50					55					60				
Lys	Glu	Ala	Gln	Glu	Lys	Leu	Glu	Gln	Ala	Glu	Lys	Lys	Ala	Thr	Asp
65					70					75					80
Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105					110		
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Met	Lys	Asp	Glu	Glu	Lys	Met	Glu	Leu	Gln
	130					135					140				
Glu	Met	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Asp	Ser	Asp	Arg
145				150						155					160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Leu	Glu	Gly	Glu	Leu
				165				170						175	
Glu	Arg	Ser	Glu	Glu	Arg	Ala	Glu	Val	Ala	Glu	Ser	Lys	Cys	Gly	Asp
		180					185						190		
Leu	Glu	Glu	Glu	Leu	Lys	Ile	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Asp	Lys	Tyr	Ser	Thr	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210					215					220				
Ile	Lys	Leu	Leu	Glu	Glu	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225				230						235					240
Phe	Ala	Glu	Arg	Ser	Val	Ala	Lys	Leu	Glu	Lys	Thr	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Asp	Glu	Val	Tyr	Ala	Gln	Lys	Met	Lys	Tyr	Lys	Ala	Ile	Ser	Glu
			260					265					270		
Glu	Leu	Asp	Asn	Ala	Leu	Asn	Asp	Ile	Thr	Ser	Leu				
		275					280								

<210> 54

8471-010 b.txt

<211> 284

<212> PRT

<213> Mus musculus

<400> 54

```

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1           5           10           15
Asn Ala Ile Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Gln Ala
          20           25           30
Glu Asp Arg Cys Lys Gln Leu Glu Glu Glu Gln Gln Ala Leu Gln Lys
          35           40           45
Lys Leu Lys Gly Thr Glu Asp Glu Val Glu Lys Tyr Ser Glu Ser Val
          50           55           60
Lys Asp Ala Gln Glu Lys Leu Glu Gln Ala Glu Lys Lys Ala Thr Asp
65           70           75           80
Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
          85           90           95
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
          100          105          110
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
          115          120          125
Val Ile Glu Asn Arg Ala Met Lys Asp Glu Glu Lys Met Glu Leu Gln
          130          135          140
Glu Met Gln Leu Lys Glu Ala Lys His Ile Ala Glu Asp Ser Asp Arg
145          150          155          160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Leu Glu Gly Glu Leu
          165          170          175
Glu Arg Ser Glu Glu Arg Ala Glu Val Ala Glu Ser Lys Cys Gly Asp
          180          185          190
Leu Glu Glu Glu Leu Lys Ile Val Thr Asn Asn Leu Lys Ser Leu Glu
          195          200          205
Ala Gln Ala Asp Lys Tyr Ser Thr Lys Glu Asp Lys Tyr Glu Glu Glu
          210          215          220
Ile Lys Leu Leu Glu Glu Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225          230          235          240
Phe Ala Glu Arg Ser Val Ala Lys Leu Glu Lys Thr Ile Asp Asp Leu
          245          250          255
Glu Asp Glu Val Tyr Ala Gln Lys Met Lys Tyr Lys Ala Ile Ser Glu
          260          265          270
Glu Leu Asp Asn Ala Leu Asn Asp Ile Thr Ser Leu
          275          280

```

<210> 55

<211> 284

<212> PRT

<213> Sus scrofa

<400> 55

```

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1           5           10           15
Asn Ala Leu Asp Arg Ala Asp Glu Ala Glu Ala Asp Lys Lys Ala Ala
          20           25           30
Glu Asp Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ser Leu Gln Lys

```

8471-010 b.txt

		35					40				45						
Lys	Leu	Lys	Ala	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ala	Leu		
	50					55					60						
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Glu	Lys	Lys	Ala	Thr	Asp		
65					70					75					80		
Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Phe	Glu		
				85					90					95			
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys		
			100					105					110				
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys		
		115					120					125					
Val	Ile	Glu	Ser	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln		
	130					135					140						
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Asp	Ala	Asp	Arg		
145					150				155						160		
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Ser	Asp	Leu		
				165				170						175			
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Gly	Lys	Cys	Ala	Glu		
		180					185						190				
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu		
		195				200					205						
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu		
	210					215					220						
Ile	Lys	Val	Leu	Ser	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu		
225					230				235						240		
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu		
				245				250						255			
Glu	Asp	Glu	Leu	Tyr	Ala	Gln	Lys	Leu	Lys	Tyr	Lys	Ala	Ile	Ser	Glu		
		260						265					270				
Glu	Leu	Asp	His	Ala	Leu	Asn	Asp	Met	Thr	Ser	Ile						
	275						280										

<210> 56

<211> 284

<212> PRT

<213> Gallus gallus

<400> 56

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu		
1				5					10					15			
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Ala	Ala		
		20						25					30				
Glu	Glu	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Glu	Leu	Val	Ala	Leu	Gln	Lys		
		35				40					45						
Lys	Leu	Lys	Gly	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ser	Leu		
	50				55					60							
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Asp	Lys	Lys	Ala	Thr	Asp		
65					70				75						80		
Ala	Glu	Ser	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu		
				85				90						95			
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys		
		100						105					110				

8471-010 b.txt

```

Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
      115                      120                      125
Val Ile Glu Asn Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
      130                      135                      140
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg
145                      150                      155                      160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu
      165                      170                      175
Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Ser Gln Val Arg Gln
      180                      185                      190
Leu Glu Glu Gln Leu Arg Ile Met Asp Gln Thr Leu Lys Ala Leu Met
      195                      200                      205
Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
      210                      215                      220
Ile Lys Val Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225                      230                      235                      240
Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
      245                      250                      255
Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Asn Met His Gln
      260                      265                      270
Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
      275                      280

```

<210> 57

<211> 284

<212> PRT

<213> Coturnix coturnix japonica

<400> 57

```

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1                      5                      10                      15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
      20                      25                      30
Glu Glu Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ala Leu Gln Lys
      35                      40                      45
Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ser Leu
      50                      55                      60
Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Asp Lys Lys Ala Thr Asp
65                      70                      75                      80
Ala Glu Ser Glu Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
      85                      90                      95
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
      100                      105                      110
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
      115                      120                      125
Val Ile Glu Asn Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
      130                      135                      140
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg
145                      150                      155                      160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu
      165                      170                      175
Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Ser Lys Cys Ala Glu
      180                      185                      190

```

8471-010 b.txt

```

Leu Glu Glu Glu Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu
      195                200                205
Ala Gln Ala Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
      210                215                220
Ile Lys Val Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225                230                235                240
Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
      245                250                255
Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Asn Met His Gln
      260                265                270
Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
      275                280

```

<210> 58
 <211> 248
 <212> PRT
 <213> *Xenopus laevis*

```

<400> 58
Met Ala Gly Ile Thr Ser Leu Glu Ala Val Lys Arg Lys Ile Lys Cys
  1          5          10          15
Leu Gln Asp Gln Ala Asp Glu Ala Glu Glu Arg Ala Glu Lys Leu Gln
      20          25          30
Arg Glu Arg Asp Met Glu Arg Lys Leu Arg Glu Ala Ala Glu Gly Asp
      35          40          45
Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu Glu Glu Leu Asp
      50          55          60
Arg Ala Gln Glu Arg Leu Ser Thr Ala Leu Gln Lys Leu Glu Glu Ala
65          70          75          80
Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Asn
      85          90          95
Arg Ala Leu Lys Asp Glu Glu Lys Met Glu Leu Gln Glu Ile Gln Leu
      100         105         110
Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg Lys Tyr Glu Glu
      115         120         125
Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu Glu Arg Ala Glu
      130         135         140
Glu Arg Ala Glu Leu Ser Glu Ser His Tyr Arg Gln Leu Glu Asp Gln
      145         150         155         160
Gln Arg Ile Met Asp Gln Thr Leu Lys Thr Leu Ile Ala Ser Glu Glu
      165         170         175
Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu Ile Lys Val Leu
      180         185         190
Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg
      195         200         205
Thr Val Ala Lys Leu Glu Lys Ser Ile Asp Asp Leu Glu Glu Lys Val
      210         215         220
Ala His Ala Lys Glu Glu Asn Leu Asn Met His Gln Met Leu Asp Gln
      225         230         235         240
Thr Leu Leu Glu Leu Asn Asn Met
      245

```

<210> 59

8471-010 b.txt

<211> 284

<212> PRT

<213> Gallus gallus

<400> 59

```

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1          5          10          15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
          20          25          30
Glu Glu Arg Ser Lys Gln Leu Glu Asp Asp Ile Val Gln Leu Glu Lys
          35          40          45
Gln Leu Arg Val Thr Glu Asp Ser Arg Asp Gln Val Leu Glu Glu Leu
          50          55          60
His Lys Ser Glu Asp Ser Leu Leu Phe Ala Glu Glu Asn Ala Ala Lys
65          70          75          80
Ala Glu Ser Glu Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
          85          90          95
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
          100          105          110
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
          115          120          125
Val Ile Glu Asn Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
          130          135          140
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Glu Ala Asp Arg
145          150          155          160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Gly Asp Leu
          165          170          175
Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Ser Lys Cys Ala Glu
          180          185          190
Leu Glu Glu Glu Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu
          195          200          205
Ala Gln Ala Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
          210          215          220
Ile Lys Val Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225          230          235          240
Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
          245          250          255
Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Asn Met His Gln
          260          265          270
Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
          275          280

```

<210> 60

<211> 284

<212> PRT

<213> Coturnix coturnix japonica

<400> 60

```

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1          5          10          15
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
          20          25          30
Glu Glu Arg Ser Lys Gln Leu Glu Asp Asp Ile Val Gln Leu Glu Lys

```

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	35					40				45					
Gln	Leu	Arg	Val	Thr	Glu	Asp	Ser	Arg	Asp	Gln	Val	Leu	Glu	Glu	Leu
	50					55					60				
His	Lys	Ser	Glu	Asp	Ser	Leu	Leu	Ser	Ala	Glu	Glu	Ile	Ala	Ala	Lys
65					70					75					80
Ala	Glu	Ser	Glu	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu
				85					90					95	
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys
			100					105				110			
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys
		115					120					125			
Val	Ile	Glu	Asn	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln
	130					135					140				
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Glu	Ala	Asp	Arg
145					150				155						160
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Gly	Asp	Leu
				165				170						175	
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Ser	Lys	Cys	Ala	Glu
			180					185					190		
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu
		195					200					205			
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu
	210						215				220				
Ile	Lys	Val	Leu	Thr	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu
225					230					235					240
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu
				245					250					255	
Glu	Glu	Lys	Val	Ala	His	Ala	Lys	Glu	Glu	Asn	Leu	Asn	Met	His	Gln
			260					265					270		
Met	Leu	Asp	Gln	Thr	Leu	Leu	Glu	Leu	Asn	Asn	Met				
	275						280								

<210> 61

<211> 227

<212> PRT

<213> Homo sapiens

<400> 61

Cys	Arg	Leu	Arg	Ile	Phe	Leu	Arg	Thr	Ala	Ser	Ser	Glu	His	Leu	His
1				5					10				15		
Glu	Arg	Lys	Leu	Arg	Glu	Thr	Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn
			20					25					30		
Arg	Arg	Ile	Gln	Leu	Val	Glu	Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg
		35					40					45			
Leu	Ala	Thr	Val	Leu	Gln	Lys	Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp
	50					55					60				
Glu	Ser	Glu	Arg	Gly	Met	Lys	Val	Ile	Glu	Ser	Arg	Ala	Gln	Lys	Asp
65					70					75					80
Glu	Glu	Lys	Met	Glu	Ile	Gln	Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His
				85					90					95	
Ile	Ala	Glu	Asp	Ala	Asp	Arg	Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu
			100					105					110		
Val	Ile	Ile	Glu	Ser	Asp	Leu	Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu

[illegible]

```
<210> 62
<211> 284
<212> PRT
<213> Rattus norvegicus
```

<400> 62															
Met 1	Asp	Ala	Ile	Lys 5	Lys	Lys	Met	Gln	Met 10	Leu	Lys	Leu	Asp	Lys 15	Glu
Asn	Ala	Leu	Asp 20	Arg	Ala	Glu	Gln	Ala 25	Glu	Ala	Asp	Lys	Lys 30	Ala	Ala
Glu	Asp	Arg	Ser 35	Lys	Gln	Leu	Glu 40	Glu	Asp	Ile	Ser	Ala 45	Lys	Glu	Lys
Leu	Leu	Arg	Ala	Ser	Glu	Asp 55	Glu	Arg	Asp	Arg	Val	Leu 60	Glu	Glu	Leu
His 65	Lys	Ala	Glu	Asp 70	Ser	Leu	Leu	Ala	Ala 75	Asp	Glu	Thr	Ala	Ala 80	Lys
Ala	Glu	Ala	Asp	Val 85	Ala	Ser	Leu	Asn	Arg 90	Arg	Ile	Gln	Leu	Val 95	Glu
Glu	Glu	Leu	Asp 100	Arg	Ala	Gln	Glu	Arg 105	Leu	Ala	Thr	Ala 110	Leu	Gln	Lys
Leu	Glu	Glu	Ala 115	Glu	Lys	Ala	Ala 120	Asp	Glu	Ser	Glu	Arg 125	Gly	Met	Lys
Val	Ile	Glu	Ser	Arg	Ala	Gln 135	Lys	Asp	Glu	Glu	Lys 140	Met	Glu	Ile	Gln
Glu 145	Ile	Gln	Leu	Lys 150	Glu	Ala	Lys	His	Ile	Ala 155	Glu	Asp	Ala	Asp 160	Arg
Lys	Tyr	Glu	Glu	Val 165	Ala	Arg	Lys	Leu	Val 170	Ile	Ile	Glu	Ser	Asp 175	Leu
Glu	Arg	Ala	Glu 180	Glu	Arg	Ala	Glu	Leu 185	Ser	Glu	Gly	Lys	Cys	Ala	Glu
Leu	Glu	Glu	Glu 195	Leu	Lys	Thr	Val 200	Thr	Asn	Asn	Leu	Lys 205	Ser	Leu	Glu
Ala	Gln	Ala	Glu 210	Lys	Tyr	Ser	Gln 215	Lys	Glu	Asp	Lys 220	Tyr	Glu	Glu	Glu
Ile 225	Lys	Val	Leu	Ser 230	Asp	Lys	Leu	Lys	Glu	Ala 235	Glu	Thr	Arg	Ala	Glu
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu

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				245					250					255		
Glu	Glu	Lys	Val	Ala	His	Ala	Lys	Glu	Glu	Asn	Leu	Ser	Met	His	Gln	
			260					265					270			
Met	Leu	His	Gln	Thr	Leu	Leu	Glu	Leu	Asn	Asn	Met					
			275				280									

<210> 63
 <211> 281
 <212> PRT
 <213> Rattus norvegicus

<400> 63

Met	Asp	Ala	Ile	Lys	Lys	Lys	Met	Gln	Met	Leu	Lys	Leu	Asp	Lys	Glu	
1			5					10					15			
Asn	Ala	Leu	Asp	Arg	Ala	Glu	Gln	Ala	Glu	Ala	Asp	Lys	Lys	Ala	Ala	
			20				25					30				
Glu	Asp	Arg	Ser	Lys	Gln	Leu	Glu	Asp	Glu	Leu	Val	Ser	Leu	Gln	Lys	
		35				40					45					
Lys	Leu	Lys	Ala	Thr	Glu	Asp	Glu	Leu	Asp	Lys	Tyr	Ser	Glu	Ala	Leu	
	50				55					60						
Lys	Asp	Ala	Gln	Glu	Lys	Leu	Glu	Leu	Ala	Glu	Lys	Lys	Ala	Thr	Asp	
65				70				75						80		
Ala	Glu	Ala	Asp	Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu	
			85					90					95			
Glu	Glu	Leu	Asp	Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys	
			100				105						110			
Leu	Glu	Glu	Ala	Glu	Lys	Ala	Ala	Asp	Glu	Ser	Glu	Arg	Gly	Met	Lys	
		115				120					125					
Val	Ile	Glu	Ser	Arg	Ala	Gln	Lys	Asp	Glu	Glu	Lys	Met	Glu	Ile	Gln	
	130					135					140					
Glu	Ile	Gln	Leu	Lys	Glu	Ala	Lys	His	Ile	Ala	Glu	Asp	Ala	Asp	Arg	
145				150					155					160		
Lys	Tyr	Glu	Glu	Val	Ala	Arg	Lys	Leu	Val	Ile	Ile	Glu	Ser	Asp	Leu	
			165					170						175		
Glu	Arg	Ala	Glu	Glu	Arg	Ala	Glu	Leu	Ser	Glu	Gly	Lys	Cys	Ala	Glu	
		180					185						190			
Leu	Glu	Glu	Glu	Leu	Lys	Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu	
		195				200						205				
Ala	Gln	Ala	Glu	Lys	Tyr	Ser	Gln	Lys	Glu	Asp	Lys	Tyr	Glu	Glu	Glu	
	210					215					220					
Ile	Lys	Val	Leu	Ser	Asp	Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu	
225				230					235					240		
Phe	Ala	Glu	Arg	Ser	Val	Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu	
			245					250					255			
Glu	Asp	Gln	Leu	Tyr	His	Gln	Leu	Glu	Gln	Asn	Arg	Arg	Leu	Thr	Asn	
		260					265						270			
Glu	Leu	Lys	Leu	Ala	Leu	Asn	Glu	Asp								
		275					280									

<210> 64
 <211> 251
 <212> PRT
 <213> Rattus norvegicus

<400> 64

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Leu Gln Glu Gln Ala Asp Ala Ala Glu Glu Arg Ala Gly Ser Leu Gln
          20          25          30
Arg Glu Leu Asp Gln Glu Arg Lys Leu Arg Glu Thr Ala Glu Ala Asp
          35          40          45
Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu Glu Glu Leu Asp
          50          55          60
Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys Leu Glu Glu Ala
65          70          75          80
Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Ser
          85          90          95
Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln Glu Ile Gln Leu
          100          105          110
Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg Lys Tyr Glu Glu
          115          120          125
Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu Glu Arg Ala Glu
          130          135          140
Glu Arg Ala Glu Leu Ser Glu Gly Lys Cys Ala Glu Leu Glu Glu Glu
145          150          155          160
Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu Ala Gln Ala Glu
          165          170          175
Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu Ile Lys Val Leu
          180          185          190
Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg
          195          200          205
Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu Glu Asp Lys Phe
          210          215          220
Leu Cys Phe Ser Pro Pro Lys Thr Pro Ser Ser Ser Arg Met Ser His
225          230          235          240
Leu Ser Glu Leu Cys Ile Cys Leu Leu Ser Ser
          245          250

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<210> 65

<211> 245

<212> PRT

<213> Rattus norvegicus

<400> 65

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Met Ala Gly Ser Ser Ser Leu Glu Ala Val Arg Arg Lys Ile Arg Ser
 1          5          10          15
Leu Gln Glu Gln Ala Asp Ala Ala Glu Glu Arg Ala Gly Ser Leu Gln
          20          25          30
Arg Glu Leu Asp Gln Glu Arg Lys Leu Arg Glu Thr Ala Glu Ala Asp
          35          40          45
Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu Glu Glu Leu Asp
          50          55          60
Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys Leu Glu Glu Ala
65          70          75          80
Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Ser
          85          90          95

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Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln Glu Ile Gln Leu
      100      105      110
Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg Lys Tyr Glu Glu
      115      120      125
Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu Glu Arg Ala Glu
      130      135      140
Glu Arg Ala Glu Leu Ser Glu Gly Lys Cys Ala Glu Leu Glu Glu Glu
145      150      155      160
Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu Ala Gln Ala Glu
      165      170      175
Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu Ile Lys Val Leu
      180      185      190
Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg
      195      200      205
Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu Glu Asp Gln Leu
      210      215      220
Tyr His Gln Leu Glu Gln Asn Arg Arg Leu Thr Asn Glu Leu Lys Leu
225      230      235      240
Ala Leu Asn Glu Asp
      245

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<210> 66

<211> 961

<212> PRT

<213> Bos taurus

<400> 66

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Met Asn Phe Leu Arg Gly Val Met Gly Gly Gln Ser Ala Gly Pro Gln
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His Thr Glu Ala Glu Thr Ile Gln Lys Leu Cys Asp Arg Val Ala Ser
      20      25      30
Ser Thr Leu Leu Asp Asp Arg Arg Asn Ala Val Arg Ala Leu Lys Ser
      35      40      45
Leu Ser Lys Lys Tyr Arg Leu Glu Val Gly Ile Gln Ala Met Glu His
      50      55      60
Leu Ile His Val Leu Gln Thr Asp Arg Ser Asp Ser Glu Ile Ile Gly
65      70      75      80
Tyr Ala Leu Asp Thr Leu Tyr Asn Ile Ile Ser Asn Asp Glu Glu Glu
      85      90      95
Glu Val Glu Glu Asn Ser Thr Arg Gln Ser Glu Asp Leu Gly Ser Gln
      100      105      110
Phe Thr Glu Ile Phe Ile Lys Gln Gln Glu Asn Val Thr Leu Leu Leu
      115      120      125
Ser Leu Leu Glu Glu Phe Asp Phe His Val Arg Trp Pro Gly Val Lys
      130      135      140
Leu Leu Thr Ser Leu Leu Lys Gln Leu Gly Pro Gln Val Gln Gln Ile
145      150      155      160
Ile Leu Val Ser Pro Met Gly Val Ser Arg Leu Met Asp Leu Leu Ala
      165      170      175
Asp Ser Arg Glu Val Ile Arg Asn Asp Gly Val Leu Leu Leu Gln Ala
      180      185      190
Leu Thr Arg Ser Asn Gly Ala Ile Gln Lys Ile Val Ala Phe Glu Asn
      195      200      205

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Ala	Phe	Glu	Arg	Leu	Leu	Asp	Ile	Ile	Thr	Glu	Glu	Gly	Asn	Ser	Asp
210						215					220				
Gly	Gly	Ile	Val	Val	Glu	Asp	Cys	Leu	Ile	Leu	Leu	Gln	Asn	Leu	Leu
225					230					235					240
Lys	Asn	Asn	Asn	Ser	Asn	Gln	Asn	Phe	Phe	Lys	Glu	Gly	Ser	Tyr	Ile
				245				250						255	
Gln	Arg	Met	Lys	Pro	Trp	Phe	Glu	Val	Gly	Asp	Glu	Asn	Ser	Gly	Trp
			260					265					270		
Ser	Ala	Gln	Lys	Val	Thr	Asn	Leu	His	Leu	Met	Leu	Gln	Leu	Val	Arg
		275					280					285			
Val	Leu	Val	Ser	Pro	Asn	Asn	Pro	Pro	Gly	Ala	Thr	Ser	Ser	Cys	Gln
	290				295						300				
Lys	Ala	Met	Phe	Gln	Cys	Gly	Leu	Leu	Gln	Gln	Leu	Cys	Thr	Ile	Leu
305				310					315						320
Met	Ala	Thr	Gly	Val	Pro	Ala	Asp	Ile	Leu	Thr	Glu	Thr	Ile	Asn	Thr
			325					330						335	
Val	Ser	Glu	Val	Ile	Arg	Gly	Cys	Gln	Val	Asn	Gln	Asp	Tyr	Phe	Ala
			340				345						350		
Ser	Val	Asn	Ala	Pro	Ser	Asn	Pro	Pro	Arg	Pro	Ala	Ile	Val	Val	Leu
		355				360					365				
Leu	Met	Ser	Met	Val	Asn	Glu	Arg	Gln	Pro	Phe	Val	Leu	Arg	Cys	Ala
	370				375						380				
Val	Leu	Tyr	Cys	Phe	Gln	Cys	Phe	Leu	Tyr	Lys	Asn	Gln	Lys	Gly	Gln
385				390					395						400
Gly	Glu	Ile	Val	Ser	Thr	Leu	Leu	Pro	Ser	Thr	Ile	Asp	Ala	Thr	Gly
			405					410						415	
Asn	Thr	Val	Ser	Ala	Gly	Gln	Leu	Leu	Cys	Gly	Gly	Leu	Phe	Ser	Thr
			420				425						430		
Asp	Ser	Leu	Ser	Asn	Trp	Cys	Ala	Ala	Val	Ala	Leu	Ala	His	Ala	Leu
		435				440					445				
Gln	Glu	Asn	Ala	Thr	Gln	Lys	Glu	Gln	Leu	Leu	Arg	Val	Gln	Leu	Ala
	450				455						460				
Thr	Ser	Ile	Gly	Asn	Pro	Pro	Val	Ser	Leu	Leu	Gln	Gln	Cys	Thr	Asn
465				470					475						480
Ile	Leu	Ser	Gln	Gly	Ser	Lys	Ile	Gln	Thr	Arg	Val	Gly	Leu	Leu	Met
			485					490						495	
Leu	Leu	Cys	Thr	Trp	Leu	Ser	Asn	Cys	Pro	Ile	Ala	Val	Thr	His	Phe
			500				505						510		
Leu	His	Asn	Ser	Ala	Asn	Val	Pro	Phe	Leu	Thr	Gly	Gln	Ile	Ala	Glu
		515				520						525			
Asn	Leu	Gly	Glu	Glu	Glu	Gln	Leu	Val	Gln	Gly	Leu	Cys	Ala	Leu	Leu
	530				535						540				
Leu	Gly	Ile	Ser	Ile	Tyr	Phe	Asn	Asp	Asn	Ser	Leu	Glu	Thr	Tyr	Met
545				550					555						560
Lys	Glu	Lys	Leu	Lys	Gln	Leu	Ile	Glu	Lys	Arg	Ile	Gly	Lys	Glu	Asn
			565					570						575	
Phe	Ile	Glu	Lys	Leu	Gly	Phe	Ile	Ser	Lys	His	Glu	Leu	Tyr	Ser	Arg
			580				585						590		
Ala	Ser	Gln	Lys	Pro	Gln	Pro	Asn	Phe	Pro	Ser	Pro	Glu	Tyr	Met	Ile
		595				600						605			
Phe	Asp	His	Glu	Phe	Thr	Lys	Leu	Val	Lys	Glu	Leu	Glu	Gly	Val	Ile
	610				615						620				
Thr	Lys	Ala	Ile	Tyr	Lys	Ser	Ser	Glu	Glu	Asp	Lys	Lys	Glu	Glu	Glu

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625					630					635					640
Val	Lys	Lys	Thr	Leu	Glu	Gln	His	Asp	Ser	Ile	Val	Thr	His	Tyr	Lys
				645					650					655	
Asn	Met	Ile	Arg	Glu	Gln	Asp	Leu	Gln	Leu	Glu	Glu	Leu	Lys	Gln	Gln
			660					665					670		
Ile	Ser	Thr	Leu	Lys	Cys	Gln	Asn	Glu	Gln	Leu	Gln	Thr	Ala	Val	Thr
		675					680					685			
Gln	Gln	Val	Ser	Gln	Ile	Gln	Gln	His	Lys	Asp	Gln	Tyr	Asn	Leu	Leu
	690					695					700				
Lys	Val	Gln	Leu	Gly	Lys	Asp	Ser	Gln	His	Gln	Gly	Pro	Tyr	Thr	Asp
705					710					715					720
Gly	Ala	Gln	Met	Asn	Gly	Val	Gln	Pro	Glu	Glu	Ile	Ser	Arg	Leu	Arg
				725					730					735	
Glu	Glu	Ile	Glu	Glu	Leu	Lys	Ser	Asn	Arg	Glu	Leu	Leu	Gln	Ser	Gln
			740					745					750		
Leu	Ala	Glu	Lys	Asp	Ser	Leu	Ile	Glu	Asn	Leu	Lys	Ser	Ser	Gln	Leu
		755					760					765			
Ser	Pro	Gly	Thr	Asn	Glu	Gln	Ser	Ser	Ala	Thr	Ala	Gly	Asp	Ser	Glu
	770					775					780				
Gln	Ile	Ala	Glu	Leu	Lys	Gln	Glu	Leu	Ala	Thr	Leu	Lys	Ser	Gln	Leu
785					790					795					800
Asn	Ser	Gln	Ser	Val	Glu	Ile	Thr	Lys	Leu	Gln	Thr	Glu	Lys	Gln	Glu
				805					810					815	
Leu	Leu	Gln	Lys	Thr	Glu	Ala	Phe	Ala	Lys	Ser	Ala	Pro	Val	Pro	Gly
			820					825					830		
Glu	Ser	Glu	Thr	Val	Ile	Ala	Thr	Lys	Thr	Thr	Asp	Val	Glu	Gly	Arg
		835					840					845			
Leu	Ser	Ala	Leu	Leu	Gln	Glu	Thr	Lys	Glu	Leu	Lys	Asn	Glu	Ile	Lys
	850					855					860				
Ala	Leu	Ser	Glu	Glu	Arg	Thr	Ala	Ile	Lys	Glu	Gln	Leu	Asp	Ser	Ser
865					870					875					880
Asn	Ser	Thr	Ile	Ala	Ile	Leu	Gln	Asn	Glu	Lys	Asn	Lys	Leu	Glu	Val
				885					890					895	
Asp	Ile	Thr	Asp	Ser	Lys	Lys	Glu	Gln	Asp	Asp	Leu	Leu	Val	Leu	Leu
			900					905					910		
Ala	Asp	Gln	Asp	Gln	Lys	Ile	Phe	Ser	Leu	Lys	Asn	Lys	Leu	Lys	Glu
		915					920					925			
Leu	Gly	His	Pro	Val	Glu	Glu	Glu	Asp	Glu	Leu	Glu	Ser	Gly	Asp	Gln
	930					935					940				
Asp	Asp	Glu	Asp	Asp	Glu	Asp	Glu	Asp	Asp	Gly	Lys	Glu	Gln	Gly	His
945					950					955					960
Ile															

<210> 67

<211> 959

<212> PRT

<213> Rattus norvegicus

<400> 67

Met	Asn	Phe	Leu	Arg	Gly	Val	Met	Gly	Gly	Gln	Ser	Ala	Gly	Pro	Gln
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His	Thr	Glu	Ala	Glu	Thr	Ile	Gln	Lys	Leu	Cys	Asp	Arg	Val	Ala	Ser

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										20											25											30		
Ser	Thr	Leu	Leu	Asp	Asp	Arg	Arg	Asn	Ala	Val	Arg	Ala	Leu	Lys	Ser																			
			35					40				45																						
Leu	Ser	Lys	Lys	Tyr	Arg	Leu	Glu	Val	Gly	Ile	Gln	Ala	Met	Glu	His																			
	50					55					60																							
Leu	Ile	His	Val	Leu	Gln	Thr	Asp	Arg	Ser	Asp	Ser	Glu	Ile	Ile	Ala																			
65					70					75					80																			
Tyr	Ala	Leu	Asp	Thr	Leu	Tyr	Asn	Ile	Ile	Ser	Asn	Asp	Glu	Glu	Glu																			
				85				90						95																				
Glu	Val	Glu	Glu	Asn	Ser	Thr	Arg	Gln	Ser	Glu	Asp	Leu	Gly	Ser	Gln																			
			100					105					110																					
Phe	Thr	Glu	Ile	Phe	Ile	Lys	Gln	Pro	Glu	Asn	Val	Thr	Leu	Leu	Leu																			
	115						120					125																						
Ser	Leu	Leu	Glu	Glu	Phe	Asp	Phe	His	Val	Arg	Trp	Pro	Gly	Val	Arg																			
	130					135					140																							
Leu	Leu	Thr	Ser	Leu	Leu	Lys	Gln	Leu	Gly	Pro	Pro	Val	Gln	Gln	Ile																			
145					150					155					160																			
Ile	Leu	Val	Ser	Pro	Met	Gly	Val	Ser	Lys	Leu	Met	Asp	Leu	Leu	Ala																			
				165				170						175																				
Asp	Ser	Arg	Glu	Ile	Ile	Arg	Asn	Asp	Gly	Val	Leu	Leu	Leu	Gln	Ala																			
			180				185						190																					
Leu	Thr	Arg	Ser	Asn	Gly	Ala	Ile	Gln	Lys	Ile	Val	Ala	Phe	Glu	Asn																			
	195					200						205																						
Ala	Phe	Glu	Arg	Leu	Leu	Asp	Ile	Ile	Thr	Glu	Glu	Gly	Asn	Ser	Asp																			
	210					215					220																							
Gly	Gly	Ile	Val	Val	Glu	Asp	Cys	Leu	Ile	Leu	Leu	Gln	Asn	Leu	Leu																			
225					230					235					240																			
Lys	Asn	Asn	Asn	Ser	Asn	Gln	Asn	Phe	Phe	Lys	Glu	Gly	Ser	Tyr	Ile																			
				245				250						255																				
Gln	Arg	Met	Lys	Ala	Trp	Phe	Glu	Val	Gly	Asp	Glu	Asn	Pro	Gly	Trp																			
			260				265						270																					
Ser	Ala	Gln	Lys	Val	Thr	Asn	Leu	His	Leu	Met	Leu	Gln	Leu	Val	Arg																			
	275					280						285																						
Val	Leu	Val	Ser	Pro	Thr	Asn	Pro	Pro	Gly	Ala	Thr	Ser	Ser	Cys	Gln																			
	290					295					300																							
Lys	Ala	Met	Phe	Gln	Cys	Gly	Leu	Leu	Gln	Gln	Leu	Cys	Thr	Ile	Leu																			
305					310					315					320																			
Met	Ala	Thr	Gly	Ile	Pro	Ala	Asp	Ile	Leu	Thr	Glu	Thr	Ile	Asn	Thr																			
			325					330					335																					
Val	Ser	Glu	Val	Ile	Arg	Gly	Cys	Gln	Val	Asn	Gln	Asp	Tyr	Phe	Ala																			
			340				345					350																						
Ser	Val	Asn	Ala	Pro	Ser	Asn	Pro	Pro	Arg	Pro	Ala	Ile	Val	Val	Leu																			
	355					360					365																							
Leu	Met	Ser	Met	Val	Asn	Glu	Arg	Gln	Pro	Phe	Val	Leu	Arg	Cys	Ala																			
	370				375					380																								
Val	Leu	Tyr	Cys	Phe	Gln	Cys	Phe	Leu	Tyr	Lys	Asn	Glu	Lys	Gly	Gln																			
385					390					395					400																			
Gly	Glu	Ile	Val	Ala	Thr	Leu	Leu	Pro	Ser	Thr	Ile	Asp	Ala	Thr	Gly																			
			405					410					415																					
Asn	Ser	Val	Ser	Ala	Gly	Gln	Leu	Leu	Cys	Gly	Gly	Leu	Phe	Ser	Thr																			
		420					425					430																						
Asp	Ser	Leu	Ser	Asn	Trp	Cys	Ala	Ala	Val	Ala	Leu	Ala	His	Ala	Leu																			
	435					440					445																							

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Gln	Gly	Asn	Ala	Thr	Gln	Lys	Glu	Gln	Leu	Leu	Arg	Val	Gln	Leu	Ala		
	450					455					460						
Thr	Ser	Ile	Gly	Asn	Pro	Pro	Val	Ser	Leu	Leu	Gln	Gln	Cys	Thr	Asn		
465					470					475					480		
Ile	Leu	Ser	Gln	Gly	Ser	Lys	Ile	Gln	Thr	Arg	Val	Gly	Leu	Leu	Met		
				485					490					495			
Leu	Leu	Cys	Thr	Trp	Leu	Ser	Asn	Cys	Pro	Ile	Ala	Val	Thr	His	Phe		
			500					505					510				
Leu	His	Asn	Ser	Ala	Asn	Val	Pro	Phe	Leu	Thr	Gly	Gln	Ile	Ala	Glu		
		515					520					525					
Asn	Leu	Gly	Glu	Glu	Glu	Gln	Leu	Val	Gln	Gly	Leu	Cys	Ala	Leu	Leu		
	530					535					540						
Leu	Gly	Ile	Ser	Ile	Tyr	Phe	Asn	Asp	Asn	Ser	Leu	Glu	Asn	Tyr	Thr		
545					550					555					560		
Lys	Glu	Lys	Leu	Lys	Gln	Leu	Ile	Glu	Lys	Arg	Ile	Gly	Lys	Glu	Asn		
				565					570					575			
Tyr	Ile	Glu	Lys	Leu	Gly	Phe	Ile	Ser	Lys	His	Glu	Leu	Tyr	Ser	Arg		
			580					585					590				
Ala	Ser	Gln	Lys	Pro	Gln	Pro	Asn	Phe	Pro	Ser	Pro	Glu	Tyr	Met	Ile		
		595					600					605					
Phe	Asp	His	Glu	Phe	Thr	Lys	Leu	Val	Lys	Glu	Leu	Glu	Gly	Val	Ile		
	610					615					620						
Thr	Lys	Ala	Ile	Tyr	Lys	Ser	Ser	Glu	Glu	Asp	Lys	Lys	Glu	Glu	Glu		
625					630					635					640		
Val	Lys	Lys	Thr	Leu	Glu	Gln	His	Asp	Asn	Ile	Val	Thr	His	Tyr	Lys		
				645					650					655			
Asn	Met	Ile	Arg	Glu	Gln	Asp	Leu	Gln	Leu	Glu	Glu	Leu	Lys	Gln	Gln		
			660					665					670				
Val	Ser	Thr	Leu	Lys	Cys	Gln	Asn	Glu	Gln	Leu	Gln	Thr	Ala	Val	Thr		
		675					680					685					
Gln	Gln	Ala	Ser	Gln	Ile	Gln	Gln	His	Lys	Asp	Gln	Tyr	Asn	Leu	Leu		
	690					695					700						
Lys	Val	Gln	Leu	Gly	Lys	Asp	Asn	His	His	Gln	Gly	Ser	His	Ser	Asp		
705					710					715					720		
Gly	Ala	Gln	Val	Asn	Gly	Ile	Gln	Pro	Glu	Glu	Ile	Ser	Arg	Leu	Arg		
				725					730					735			
Glu	Glu	Ile	Glu	Glu	Leu	Arg	Ser	His	Gln	Val	Leu	Leu	Gln	Ser	Gln		
			740					745					750				
Leu	Ala	Glu	Lys	Asp	Thr	Val	Ile	Glu	Asn	Leu	Arg	Ser	Ser	Gln	Val		
		755					760					765					
Ser	Gly	Met	Ser	Glu	Gln	Ala	Leu	Ala	Thr	Cys	Ser	Pro	Arg	Asp	Ala		
	770					775					780						
Glu	Gln	Val	Ala	Glu	Leu	Lys	Gln	Glu	Leu	Ser	Ala	Leu	Lys	Ser	Gln		
785					790					795					800		
Leu	Cys	Ser	Gln	Ser	Leu	Glu	Ile	Thr	Arg	Leu	Gln	Thr	Glu	Asn	Ser		
				805					810					815			
Glu	Leu	Gln	Gln	Arg	Ala	Glu	Thr	Leu	Ala	Lys	Ser	Val	Pro	Val	Glu		
			820					825					830				
Gly	Glu	Ser	Glu	Leu	Val	Thr	Ala	Ala	Lys	Thr	Thr	Asp	Val	Glu	Gly		
		835					840					845					
Arg	Leu	Ser	Ala	Leu	Leu	Gln	Glu	Thr	Lys	Glu	Leu	Lys	Asn	Glu	Ile		
	850					855					860						
Lys	Ala	Leu	Ser	Glu	Glu	Arg	Thr	Ala	Ile	Gln	Lys	Gln	Leu	Asp	Ser		

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865					870					875					880
Ser	Asn	Ser	Thr	Ile	Ala	Ile	Leu	Gln	Thr	Glu	Lys	Asp	Lys	Leu	Tyr
				885					890					895	
Leu	Glu	Val	Thr	Asp	Ser	Lys	Lys	Glu	Gln	Asp	Asp	Leu	Leu	Val	Leu
			900					905					910		
Leu	Ala	Asp	Gln	Asp	Gln	Lys	Ile	Leu	Ser	Leu	Lys	Ser	Lys	Leu	Lys
		915					920					925			
Asp	Leu	Gly	His	Pro	Val	Glu	Glu	Glu	Asp	Glu	Ser	Gly	Asp	Gln	Glu
	930					935					940				
Asp	Asp	Asp	Asp	Glu	Leu	Asp	Asp	Gly	Asp	Arg	Asp	Gln	Asp	Ile	
945					950					955					

<210> 68

<211> 1139

<212> PRT

<213> Caenorhabditis elegans

<400> 68

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Ser	Glu	Asp	Gly	Val	Asp	Asn	Gly	Gly	Pro	Ile	Asp	Glu	Pro	Ser	Asp
			20					25					30		
Arg	Asp	Asn	Ile	Glu	Gln	Leu	Met	Met	Asn	Met	Leu	Glu	Asp	Arg	Asp
		35					40					45			
Lys	Leu	Gln	Glu	Gln	Leu	Glu	Asn	Tyr	Lys	Val	Gln	Leu	Glu	Asn	Ala
	50					55					60				
Gly	Leu	Arg	Thr	Lys	Glu	Val	Glu	Lys	Glu	Arg	Asp	Met	Met	Lys	Arg
65					70					75					80
Gln	Phe	Glu	Val	His	Thr	Gln	Asn	Leu	Pro	Gln	Glu	Leu	Gln	Thr	Met
				85					90					95	
Thr	Arg	Glu	Leu	Cys	Leu	Leu	Lys	Glu	Gln	Leu	Leu	Glu	Lys	Asp	Glu
			100					105					110		
Glu	Ile	Val	Glu	Leu	Lys	Ala	Glu	Arg	Asn	Asn	Thr	Arg	Leu	Leu	Leu
		115					120					125			
Glu	His	Leu	Glu	Cys	Leu	Val	Ser	Arg	His	Glu	Arg	Ser	Leu	Arg	Met
	130					135					140				
Thr	Val	Met	Lys	Arg	Gln	Ala	Gln	Asn	His	Ala	Gly	Val	Ser	Ser	Glu
145					150					155					160
Val	Glu	Val	Leu	Lys	Ala	Leu	Lys	Ser	Leu	Phe	Glu	His	His	Lys	Ala
				165					170					175	
Leu	Asp	Glu	Lys	Val	Arg	Glu	Arg	Leu	Arg	Val	Ala	Met	Glu	Arg	Val
			180					185					190		
Ala	Thr	Leu	Glu	Glu	Glu	Leu	Ser	Thr	Lys	Gly	Asp	Glu	Asn	Ser	Ser
		195					200					205			
Leu	Lys	Ala	Arg	Ile	Ala	Thr	Tyr	Ala	Ala	Glu	Ala	Glu	Glu	Ala	Met
	210					215						220			
Ala	Ser	Asn	Ala	Pro	Ile	Asn	Gly	Ser	Ile	Ser	Ser	Glu	Ser	Ala	Asn
225					230					235					240
Arg	Leu	Ile	Glu	Met	Gln	Glu	Ala	Leu	Glu	Arg	Met	Lys	Thr	Glu	Leu
				245					250					255	
Ala	Asn	Ser	Leu	Lys	Gln	Ser	Thr	Glu	Ile	Thr	Thr	Arg	Asn	Ala	Glu
			260					265					270		
Leu	Glu	Asp	Gln	Leu	Thr	Glu	Asp	Ala	Arg	Glu	Lys	His	Ala	Ala	Gln

		275					280				285				
Glu	Ser	Ile	Val	Arg	Leu	Lys	Asn	Gln	Ile	Cys	Glu	Leu	Asp	Ala	Gln
	290					295					300				
Arg	Thr	Asp	Gln	Glu	Thr	Arg	Ile	Thr	Thr	Phe	Glu	Ser	Arg	Phe	Leu
305					310					315					320
Thr	Ala	Gln	Arg	Glu	Ser	Thr	Cys	Ile	Arg	Asp	Leu	Asn	Asp	Lys	Leu
				325					330					335	
Glu	His	Gln	Leu	Ala	Asn	Lys	Asp	Ala	Ala	Val	Arg	Leu	Asn	Glu	Glu
			340					345					350		
Lys	Val	His	Ser	Leu	Gln	Glu	Arg	Leu	Glu	Leu	Ala	Glu	Lys	Gln	Leu
		355					360					365			
Ala	Gln	Ser	Leu	Lys	Lys	Ala	Glu	Ser	Leu	Pro	Ser	Val	Glu	Ala	Glu
	370					375					380				
Leu	Gln	Gln	Arg	Met	Glu	Ala	Leu	Thr	Ala	Ala	Glu	Gln	Lys	Ser	Val
385					390					395					400
Ser	Ala	Glu	Glu	Arg	Ile	Gln	Arg	Leu	Asp	Arg	Asn	Ile	Gln	Glu	Leu
				405					410					415	
Ser	Ala	Glu	Leu	Glu	Arg	Ala	Val	Gln	Arg	Glu	Arg	Met	Asn	Glu	Glu
			420					425					430		
His	Ser	Gln	Arg	Leu	Ser	Ser	Thr	Val	Asp	Lys	Leu	Leu	Ser	Glu	Ser
		435					440					445			
Asn	Asp	Arg	Leu	Gln	Leu	His	Leu	Lys	Glu	Arg	Met	Gln	Ala	Leu	Asp
	450					455					460				
Asp	Lys	Asn	Arg	Leu	Thr	Gln	Gln	Leu	Asp	Gly	Thr	Lys	Lys	Ile	Tyr
465					470					475					480
Asp	Gln	Ala	Glu	Arg	Ile	Lys	Asp	Arg	Leu	Gln	Arg	Asp	Asn	Glu	Ser
				485					490					495	
Leu	Arg	Gln	Glu	Ile	Glu	Ala	Leu	Arg	Gln	Gln	Leu	Tyr	Asn	Ala	Arg
			500					505					510		
Thr	Ala	Gln	Phe	Gln	Ser	Arg	Met	His	Ala	Ile	Pro	Phe	Thr	His	Ala
		515					520					525			
Gln	Asn	Ile	Val	Gln	Gln	Gln	Pro	Gln	Ala	Ser	Ile	Ala	Gln	Gln	Ser
	530					535					540				
Ala	Tyr	Gln	Met	Tyr	Lys	Gln	Gln	Pro	Ala	Gln	Gln	Tyr	Gln	Thr	Val
545					550					555					560
Gly	Met	Arg	Arg	Pro	Asn	Lys	Gly	Arg	Ile	Ser	Ala	Leu	Gln	Asp	Asp
				565					570					575	
Pro	Asn	Lys	Val	Gln	Thr	Leu	Asn	Glu	Gln	Glu	Trp	Asp	Arg	Leu	Gln
			580					585					590		
Gln	Ala	His	Val	Leu	Ala	Asn	Val	Gln	Gln	Ala	Phe	Ser	Ser	Ser	Pro
		595					600					605			
Ser	Leu	Ala	Asp	Val	Gly	Gln	Ser	Thr	Leu	Pro	Arg	Pro	Asn	Thr	Ala
	610					615					620				
Val	Gln	His	Gln	Gln	Asp	Met	Met	Asn	Ser	Gly	Met	Gly	Met	Pro	
625															

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Ile	Ser	Thr	Arg	Ser	Ser	Pro	Arg	Ala	Ser	Pro	Gln	Leu	Asp	Asn	Met	705	710	715	720
Arg	Gln	His	Lys	Tyr	Asn	Thr	Leu	Pro	Ala	Asn	Val	Ser	Gly	Asp	Arg	725	730	735	
Arg	Tyr	Asp	Ile	Tyr	Gly	Asn	Pro	Gln	Phe	Val	Asp	Asp	Arg	Met	Val	740	745	750	
Arg	Asp	Leu	Asp	Tyr	Glu	Pro	Arg	Arg	Gly	Tyr	Asn	Gln	Phe	Asp	Glu	755	760	765	
Met	Gln	Tyr	Glu	Arg	Asp	Arg	Met	Ser	Pro	Ala	Ser	Ser	Val	Ala	Ser	770	775	780	
Ser	Thr	Asp	Gly	Val	Leu	Gly	Gly	Lys	Lys	Lys	Arg	Ser	Asn	Ser	Ser	785	790	795	800
Ser	Gly	Leu	Lys	Thr	Leu	Gly	Arg	Phe	Phe	Asn	Lys	Lys	Lys	Asn	Ser	805	810	815	
Ser	Ser	Asp	Leu	Phe	Lys	Arg	Asn	Gly	Asp	Tyr	Ser	Asp	Gly	Glu	Gln	820	825	830	
Ser	Gly	Thr	Glu	Gly	Asn	Gln	Lys	Ala	Asp	Tyr	Asp	Arg	Arg	Lys	Lys	835	840	845	
Lys	Lys	His	Glu	Leu	Leu	Glu	Glu	Ala	Met	Lys	Ala	Arg	Thr	Pro	Phe	850	855	860	
Ala	Leu	Trp	Asn	Gly	Pro	Thr	Val	Val	Ala	Trp	Leu	Glu	Leu	Trp	Val	865	870	875	880
Gly	Met	Pro	Ala	Trp	Tyr	Val	Ala	Ala	Cys	Arg	Ala	Asn	Val	Lys	Ser	885	890	895	
Gly	Ala	Ile	Met	Ser	Ala	Leu	Ser	Asp	Gln	Glu	Ile	Gln	Lys	Glu	Ile	900	905	910	
Gly	Ile	Ser	Asn	Pro	Leu	His	Arg	Leu	Lys	Leu	Arg	Leu	Ala	Ile	Gln	915	920	925	
Glu	Met	Val	Ser	Leu	Thr	Ser	Pro	Ser	Ala	Pro	Arg	Thr	Ala	Arg	Leu	930	935	940	
Thr	Leu	Ala	Phe	Gly	Asp	Met	Asn	His	Glu	Tyr	Ile	Gly	Asn	Asp	Trp	945	950	955	960
Leu	Pro	Cys	Leu	Gly	Leu	Ala	Gln	Tyr	Arg	Ser	Ala	Phe	Met	Glu	Cys	965	970	975	
Leu	Leu	Asp	Ala	Arg	Met	Leu	Glu	His	Leu	Ser	Lys	Arg	Asp	Leu	Arg	980	985	990	
Thr	His	Leu	Arg	Met	Val	Asp	Thr	Phe	His	Arg	Thr	Ser	Leu	Gln	Tyr	995	1000	1005	
Gly	Ile	Met	Cys	Leu	Lys	Lys	Val	Asn	Tyr	Asp	Lys	Lys	Val	Leu	Ala	1010	1015	1020	
Asp	Arg	Arg	Lys	Ala	Cys	Asp	Asn	Ile	Asn	Thr	Asp	Leu	Leu	Val	Trp	1025	1030	1035	1040
Ser	Asn	Glu	Arg	Val	Gln	Arg	Trp	Val	Glu	Glu	Ile	Gly	Leu	Gly	Val	1045	1050	1055	
Phe	Ser	Arg	Asn	Leu	Val	Asp	Ser	Gly	Ile	His	Gly	Ala	Leu	Ile	Ala	1060	1065	1070	
Leu	Asp	Glu	Thr	Phe	Asp	Ala	Ser	Ala	Phe	Ala	Tyr	Ala	Leu	Gln	Ile	1075	1080	1085	
Gly	Ser	Gln	Asp	Val	Pro	Asn	Arg	Gln	Leu	Leu	Glu	Lys	Lys	Phe	Ile	1090	1095	1100	
Gly	Leu	Val	Asn	Asp	His	Arg	Gln	Gln	Ser	Asp	Pro	His	Pro	Arg	Ser	1105	1110	1115	1120
Gly	Ser	Ser	Arg	Lys	Asn	Asp	Ser	Ile	Ala	Lys	Ser	Tyr	Glu	Phe	His				

1125

1130

1135

Leu Tyr Thr

<210> 69

<211> 950

<212> PRT

<213> *Caenorhabditis elegans*

<400> 69

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Met Tyr Ser Arg His Ser Ile Ser Asp Ala Tyr Gly Ala Val Cys Ile
 1           5           10           15
Leu Pro Glu Asp Thr Leu Thr Val Ser Ser Ser Gln Asn Ser His Ile
          20           25           30
Asp Ala Phe Ala Ala Leu Val Asp Arg Glu Arg Asp Ser Ser Arg Ser
          35           40           45
Ser Gly Ser Gly Asn Ile Phe Lys Asp Asn Gly Ser Ile Lys Arg Arg
          50           55           60
Gln Ala Leu Pro Tyr Val Thr His Tyr Ser Asp Ser Gly Phe Gly Ser
65           70           75           80
Ala Pro Ser Ala Gly Ser Ser Cys Ser Tyr Leu Pro Pro Pro Pro Pro
          85           90           95
Tyr Arg Met Arg Gly Ser Gly Gly Leu Ser Ser Lys Pro Gln His Lys
          100          105          110
Ile His Arg Ser Leu Ser Asp Ser Lys Tyr Thr Ala Ser Leu Met Thr
          115          120          125
Thr Gly Val Pro Thr Leu Pro Leu Leu Ser Met Thr Pro Phe Asn Gln
          130          135          140
Leu Gln Ser Arg Asp Ala Arg Gly Ala Ser Trp Ile Ser Leu Val Arg
145          150          155          160
Ala Pro Asn Phe His Leu Tyr Cys Phe Phe Val Phe Phe Phe Ser Phe
          165          170          175
Asn Ile Asp Glu Thr Phe Arg Asn Ser Asn Ile Ser Ser Pro Ser Pro
          180          185          190
Ser Met Ser Thr Val Ser Cys Pro Glu Tyr Pro Glu Leu Gln Asp Lys
          195          200          205
Leu His Arg Leu Ala Met Ala Arg Asp Ser Leu Gln Leu Gln Val Ser
          210          215          220
Val Leu Ser Glu Gln Val Gly Ala Gln Lys Glu Lys Ile Lys Asp Leu
225          230          235          240
Glu Thr Val Ile Ala Leu Lys Arg Asn Asn Leu Thr Ser Thr Glu Glu
          245          250          255
Leu Leu Gln Asp Lys Tyr His Arg Ile Asp Glu Cys Gln Glu Leu Glu
          260          265          270
Ser Lys Lys Met Asp Leu Leu Ala Glu Val Ser Ser Leu Lys Leu Arg
          275          280          285
Tyr Ala Thr Leu Glu Arg Glu Lys Asn Glu Thr Glu Lys Lys Leu Arg
          290          295          300
Leu Ser Gln Asn Glu Met Asp His Val Asn Gln Ser Met His Gly Met
305          310          315          320
Val Val Gln Gln Gln Leu Ala His His Thr Asn Gly His Ser Ser Gly
          325          330          335
Gly Tyr Met Ser Pro Leu Arg Glu His Arg Ser Glu Lys Asn Asp Asp

```

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			340					345					350					
Glu	Met	Ser	Gln	Leu	Arg	Thr	Ala	Val	Gln	Arg	Leu	Met	Ala	Asp	Asn			
			355					360					365					
Glu	His	Lys	Ser	Leu	Gln	Ile	Asn	Thr	Leu	Arg	Asn	Ala	Leu	Asp	Glu			
			370					375					380					
Gln	Met	Arg	Ser	Arg	Ser	Gln	Gln	Glu	Asp	Phe	Tyr	Ala	Ser	Gln	Arg			
385				390					395					400				
Asn	Tyr	Thr	Asp	Asn	Phe	Asp	Val	Asn	Ala	Gln	Ile	Arg	Arg	Ile	Leu			
			405					410					415					
Met	Asp	Glu	Pro	Ser	Asp	Ser	Met	Ser	His	Ser	Thr	Ser	Phe	Pro	Val			
			420					425					430					
Ser	Leu	Ser	Ser	Thr	Thr	Ser	Asn	Gly	Lys	Gly	Pro	Arg	Ser	Thr	Val			
			435					440					445					
Gln	Ser	Ser	Ser	Ser	Tyr	Asn	Ser	Ser	Leu	Ser	Ala	Val	Ser	Pro	Gln			
			450					455					460					
His	Asn	Trp	Ser	Ser	Ala	Gly	Ala	Gly	Thr	Pro	Arg	Gln	Leu	His	Pro			
465				470					475					480				
Ile	Gly	Gly	Asn	Gln	Arg	Val	Asn	Asn	Ile	Thr	Ser	Ala	Gln	Tyr	Cys			
			485					490					495					
Ser	Pro	Ser	Pro	Pro	Ala	Ala	Arg	Gln	Leu	Ala	Ala	Glu	Leu	Asp	Glu			
			500					505					510					
Leu	Arg	Arg	Asn	Gly	Asn	Glu	Gly	Ala	Asn	His	Asn	Tyr	Ser	Ser	Ala			
			515					520					525					
Ser	Leu	Pro	Arg	Gly	Val	Gly	Lys	Ala	Ser	Ser	Thr	Leu	Thr	Leu	Pro			
			530					535					540					
Ser	Lys	Lys	Leu	Ser	Val	Ala	Ser	Gly	Thr	Ser	Val	Val	Glu	Ser	Asp			
545				550					555					560				
Asp	Glu	Ile	Ala	Arg	Gly	Arg	Asn	Leu	Asn	Asn	Ala	Thr	Ser	Gln	Ser			
			565					570					575					
Asn	Leu	Lys	Asn	Phe	Ser	Arg	Glu	Arg	Thr	Arg	Ser	Ser	Leu	Arg	Asn			
			580					585					590					
Ile	Phe	Ser	Lys	Leu	Thr	Arg	Ser	Thr	Ser	Gln	Asp	Gln	Ser	Asn	Ser			
			595					600					605					
Phe	Arg	Arg	Gly	Ser	Ala	Ala	Arg	Ser	Thr	Ser	Thr	Ala	Arg	Leu	Gly			
			610					615					620					
Ser	Thr	Asn	His	Leu	Gly	Thr	Val	Ser	Lys	Arg	Pro	Pro	Leu	Ser	Gln			
625				630					635					640				
Phe	Val	Asp	Trp	Arg	Ser	Glu	Gln	Leu	Ala	Asp	Trp	Ile	Ala	Glu	Ile			
			645					650					655					
Gly	Tyr	Pro	Gln	Tyr	Met	Asn	Glu	Val	Ser	Arg	His	Val	Arg	Ser	Gly			
			660					665					670					
Arg	His	Phe	Leu	Asn	Met	Ser	Met	Asn	Glu	Tyr	Glu	Gly	Val	Leu	Asn			
			675					680					685					
Ile	Lys	Asn	Pro	Val	His	Arg	Lys	Arg	Val	Ala	Ile	Leu	Leu	Arg	Arg			
			690					695					700					
Ile	Glu	Glu	Asp	Ile	Met	Glu	Pro	Ala	Asn	Lys	Trp	Asp	Val	His	Gln			
705				710					715					720				
Thr	Leu	Arg	Trp	Leu	Asp	Asp	Ile	Gly	Leu	Pro	Gln	Tyr	Lys	Asp	Val			
			725					730					735					
Phe	Ala	Glu	Asn	Val	Val	Asp	Gly	Pro	Leu	Leu	Leu	Ser	Leu	Thr	Ala			
			740					745					750					
Asn	Asp	Ala	Val	Glu	Met	Lys	Val	Val	Asn	Ala	His	His	Tyr	Ala	Thr			
			755					760					765					

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Leu Ala Arg Ser Ile Gln Phe Leu Lys Lys Ala Asp Phe Arg Phe Asn
 770          775          780
Ala Met Glu Lys Leu Ile Asp Gln Asn Ile Val Glu Lys Tyr Pro Cys
785          790          795          800
Pro Asp Val Val Val Arg Trp Thr His Ser Ala Thr Cys Glu Trp Leu
          805          810          815
Arg Lys Ile Asp Leu Ala Glu Phe Thr Gln Asn Leu Leu Phe Ala Gly
          820          825          830
Val Pro Gly Ala Leu Met Ile Tyr Glu Pro Ser Phe Thr Ala Glu Ser
          835          840          845
Leu Ala Glu Ile Leu Gln Met Pro Pro His Lys Thr Leu Leu Arg Arg
 850          855          860
His Leu Thr Ser His Phe Asn Gln Leu Leu Gly Pro Lys Ile Ile Ala
865          870          875          880
Asp Lys Arg Asp Phe Leu Ala Ala Gly Asn Tyr Pro Gln Ile Ser Pro
          885          890          895
Thr Gly Arg Val Lys Val Val Lys Lys Gly Phe Ser Leu Thr Arg Lys
          900          905          910
Lys Ala Lys Asn Glu Ile Cys Leu Glu Pro Glu Glu Leu Leu Cys Pro
          915          920          925
Gln Val Leu Val His Lys Tyr Pro Thr Gly Ala Gly Asp Asn Ser Ser
 930          935          940
Phe Glu Ser Ser Asn Val
945          950

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<210> 70
<211> 15
<212> PRT
<213> human rhinovirus 2

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<400> 70
Val Lys Ala Glu Thr Arg Leu Asn Pro Asp Leu Gln Pro Thr Glu
 1          5          10          15

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<210> 71
<211> 24
<212> PRT
<213> human immunodeficiency virus type 1

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<220>
<221> VARIANT
<222> 14
<223> Xaa = Any Amino Acid

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<400> 71
Tyr Asn Lys Arg Lys Arg Ile His Ile Gly Pro Gly Arg Xaa Phe Tyr
 1          5          10          15
Thr Thr Lys Lys Asn Ile Ile Gly Cys
          20

```

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<210> 72
<211> 8
<212> PRT

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<213> Artificial Sequence

<220>

<223> selected from synthetic peptides derived from Homo sapiens CD52.

<400> 72

Gly Thr Ser Ser Pro Ser Ala Asp

1

5

<210> 73

<211> 10

<212> PRT

<213> Mesocricetus auratus

<400> 73

Ala Pro Lys Thr Asn Met Lys His Met Ala

1

5

10

<210> 74

<211> 15

<212> PRT

<213> Foot-and-mouth disease virus

<400> 74

Tyr Thr Thr Ser Thr Arg Gly Asp Leu Ala His Val Thr Thr Thr

1

5

10

15

<210> 75

<211> 18

<212> PRT

<213> Human poliovirus 1 Mahoney

<400> 75

Cys Val Thr Ile Met Thr Val Asp Asn Pro Ala Ser Thr Thr Asn Lys

1

5

10

15

Asp Lys

<210> 76

<400> 76

000

<210> 77

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Derived from Homo sapiens MUC1 epithelial mucin glycoprotein.

<400> 77

Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr

1 5 10

<210> 78
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Derived from human immunodeficiency virus 1 gp 120 protein.

<400> 78
 His Ile Gly Pro Gly Arg Ala Phe Gly Gly Gly
 1 5 10

<210> 79
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Derived from human immunodeficiency virus 1 protease protein.

<400> 79
 Met Ser Leu Pro Gly Arg Trp Lys Pro Lys
 1 5 10

<210> 80
 <211> 7
 <212> PRT
 <213> Neisseria meningitidis

<400> 80
 Lys Asp Thr Asn Asn Asn Leu
 1 5

<210> 81
 <211> 18
 <212> PRT
 <213> Escherichia coli

<400> 81
 Ala Val Pro Gln Gly Gln Gly Lys Val Thr Phe Ser Gly Thr Val Val
 1 5 10 15
 Asp Ala

<210> 82
 <211> 53
 <212> PRT
 <213> Escherichia coli

<400> 82
 Pro Cys Gly Ile Asp Ala Ala Gln Ser Ala Asp Gln Ser Val Asp Phe

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```

      1           5           10           15
Gly Gln Ile Ser Lys Val Phe Leu Asp Asn Asp Gly Gln Thr Thr Pro
      20           25           30
Lys Ala Phe Asp Ile Lys Leu Val Asn Cys Asp Ile Thr Asn Tyr Lys
      35           40           45
Lys Pro Ala Thr Gly
      50

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<210> 83
<211> 33
<212> PRT
<213> Escherichia coli

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```

<400> 83
Met Ile Lys Ser Thr Gly Ala Leu Leu Leu Phe Ala Ala Leu Ser Ala
      1           5           10           15
Gly Gln Ala Ile Ala Ser Asp Val Ala Phe Arg Gly Asn Leu Leu Asp
      20           25           30
Arg

```

```

<210> 84
<211> 37
<212> PRT
<213> Escherichia coli

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```

<400> 84
Pro Cys His Val Ser Gly Asp Ser Leu Asn Lys His Val Val Phe Lys
      1           5           10           15
Thr Arg Ala Ser Arg Asp Phe Trp Tyr Pro Pro Gly Arg Ser Pro Thr
      20           25           30
Glu Ser Phe Val Ile
      35

```

```

<210> 85
<211> 55
<212> PRT
<213> Escherichia coli

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<400> 85
Met Arg Leu Arg Phe Ser Val Pro Leu Phe Phe Phe Gly Cys Val Phe
      1           5           10           15
Val His Gly Val Phe Ala Gly Pro Phe Pro Pro Pro Gly Met Ser Leu
      20           25           30
Pro Glu Tyr Trp Gly Glu Glu His Val Trp Trp Asp Gly Arg Ala Ala
      35           40           45
Phe His Gly Glu Val Val Arg
      50           55

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```

<210> 86
<211> 15
<212> PRT
<213> Escherichia coli

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<400> 86

Pro Ala Cys Thr Leu Ala Met Glu Asp Ala Trp Gln Ile Ile Asp
 1 5 10 15

<210> 87

<211> 36

<212> PRT

<213> Escherichia coli

<400> 87

Met Lys Lys Ile Arg Gly Leu Cys Leu Pro Val Met Leu Gly Ala Val
 1 5 10 15
 Leu Met Ser Gln His Val His Ala Ala Asp Asn Leu Thr Phe Lys Gly
 20 25 30
 Lys Leu Ile Ile
 35

<210> 88

<211> 34

<212> PRT

<213> Escherichia coli

<400> 88

Pro Ala Cys Thr Val Thr Lys Ala Glu Val Asp Trp Gly Asn Val Glu
 1 5 10 15
 Ile Gln Thr Leu Ser Pro Asp Gly Ser Arg His Gln Lys Asp Phe Ser
 20 25 30
 Val Gly

<210> 89

<211> 31

<212> PRT

<213> Escherichia coli

<400> 89

Met Ala Arg Leu Ser Leu Phe Ile Ser Leu Leu Leu Thr Ser Val Ala
 1 5 10 15
 Val Leu Ala Asp Val Gln Ile Asn Ile Arg Gly Asn Val Tyr Ile
 20 25 30

<210> 90

<211> 39

<212> PRT

<213> Escherichia coli

<400> 90

Pro Pro Cys Thr Ile Asn Asn Gly Gln Asn Ile Val Val Asp Phe Gly
 1 5 10 15
 Asn Ile Asn Pro Glu His Val Asp Asn Ser Arg Gly Glu Ile Thr Lys
 20 25 30
 Thr Ile Ser Ile Ser Cys Thr

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<210> 91
<211> 10
<212> DNA
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<220>
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g
elements

<400> 91
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<210> 92
<211> 10
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<400> 92
ccccccccc                                     10

<210> 93
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elements

<400> 93
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<210> 94
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elements

<400> 94
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<210> 96
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<210> 97
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elements

<400> 97
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<210> 98
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<210> 100
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<400> 101
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<210> 102
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<400> 102
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<210> 103

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<210> 104
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<400> 104
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<210> 105
<211> 10
<212> DNA
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<220>
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g
elements

<400> 105
cgctgagatg                                     10
<210> 106
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<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 106
gcgactctac                                     10

<210> 107
<211> 10
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<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<400> 107
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10

<210> 108

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<400> 108
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10

<210> 109

<211> 10

<212> DNA

<213> Artificial Sequence

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<223> Theoretical sequence designed to show proper and improper joining elements

<400> 109
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10

<210> 110

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<400> 110
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10

<210> 111

<211> 10

<212> DNA

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<400> 111
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<210> 112
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<220>
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<400> 112
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<210> 113
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<210> 114
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 g
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<400> 114
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<210> 115
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<220>
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<210> 116
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 g
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<400> 116
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<210> 117
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<400> 117
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<210> 118
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<210> 119
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<223> Theoretical sequence designed to show proper and improper joining elements

<400> 119
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<210> 120
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<210> 121
<211> 10
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<400> 121
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<210> 122
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<400> 122
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<210> 123
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g
elements

<400> 123
gagcctccag 10

<210> 124
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g
elements

<400> 124
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<210> 125
<211> 10
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<220>
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g
elements

<400> 125
ttggttgaacc 10

<210> 126
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g
elements

<400> 126
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<210> 127
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<220>
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g

elements

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10

<210> 128
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g
elements

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<210> 129
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g
elements

<400> 129
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10

<210> 130
<211> 10
<212> DNA
<213> Artificial Sequence

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<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 130
agtaaacgaa

10

<210> 131
<211> 10
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g
elements

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<400> 131
ccaagtccac
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<210> 132
<211> 10
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g
elements

<400> 132
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10

<210> 133
<211> 10
<212> DNA
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g
elements

<400> 133
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10

<210> 134
<211> 10
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g
elements

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<210> 135
<211> 10
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g
elements

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cgggtacggt 10

<210> 136
<211> 10
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g
elements

<400> 136
gccccatgccca 10

<210> 137
<211> 10
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<220>
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g
elements

<400> 137
cagaatgact 10

<210> 138
<211> 10
<212> DNA
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<220>
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g
elements

<400> 138
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<210> 139
<211> 10
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<220>
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g
elements

<400> 139

cccccaagcat

10

<210> 140

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 140

ggggttcgta

10

<210> 141

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 141

gtggtttagt

10

<210> 142

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 142

caccaaataca

10

<210> 143

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<220>

<221> misc_feature

<222> 8, 9, 10, 11

<223> n = residue with no base, essentially glycines that allow the DNA to fold back on itself to form the triple helix

<400> 143

ccccccnnnn nccccccc

18

<210> 144

<211> 7

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<400> 144

ggggggg

7

<210> 145

<211> 18

<212> DNA

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<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<220>

<221> misc_feature

<222> 8, 9, 10, 11

<223> n = residue with no base, essentially glycines that allow the DNA to fold back on itself to form the triple helix

<400> 145

cccttttnnn nttttccc

18

<210> 146

<211> 7

<212> DNA

<213> Artificial Sequence

<220>

<223> Theoretical sequence designed to show proper and improper joining elements

<400> 146

gggaaaa

7

<210> 147
 <211> 18
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<220>
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 g
 elements

<220>
 <221> misc_feature
 <222> 8, 9, 10, 11
 <223> n = residue with no base, essentially glycines that allow the DN
 A to
 fold back on itself to form the triple helix

<400> 147
 tctctctnnn ntctctct 18

<210> 148
 <211> 7
 <212> DNA
 <213> Artificial Sequence

<220>
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 g
 elements

<400> 148
 agagaga 7

<210> 149
 <211> 18
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 g
 elements

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 <222> 8, 9, 10, 11
 <223> n = residue with no base, essentially glycines that allow the DN
 A to
 fold back on itself to form the triple helix

<400> 149
 cttcctcnnn nctccttc 18

<210> 150
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 <220>
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 g
 elements

 <400> 150
 gaaggag 7

 <210> 151
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 <212> DNA
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 <220>
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 ng
 elements

 <400> 151
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 <210> 152
 <211> 10
 <212> DNA
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 <220>
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 g
 elements

 <400> 152
 gatacaagat 10

 <210> 153
 <211> 10
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Theoretical sequence designed to show proper and improper joinin
 g
 elements

 <400> 153
 tctgtattgg 10

```

<210> 154
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Theoretical sequence designed to show proper and improper joinin
g
elements

<400> 154
ataacctgac                                     10

<210> 155
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Theoretical sequence designed to show proper and improper joini
ng
elements

<400> 155
gggttttccc                                     10

<210> 156
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
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g
elements

<400> 156
gatcttgatc                                     10

<210> 157
<211> 6
<212> PRT
<213> Escherichia coli

<400> 157
Asn Lys Gly Gln Gly Glu
 1             5

<210> 158
<211> 14
<212> PRT
<213> Homo sapiens

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<400> 158

Ser Gly Phe Asn Ala Asp Tyr Glu Ala Ser Ser Ser Arg Cys
 1 5 10

<210> 159

<211> 17

<212> PRT

<213> Avian sarcoma virus 17

<400> 159

Pro Ile Asp Met Glu Ser Gln Glu Arg Ile Lys Ala Glu Arg Lys Arg
 1 5 10 15
 Met

<210> 160

<211> 10

<212> PRT

<213> Homo sapiens

<400> 160

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
 1 5 10

<210> 161

<211> 15

<212> PRT

<213> Murine sarcoma virus

<400> 161

Glu Glu Tyr Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu
 1 5 10 15

<210> 162

<211> 11

<212> PRT

<213> Human herpes virus type 1

<400> 162

Gln Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp
 1 5 10

<210> 163

<211> 11

<212> PRT

<213> Enterobacteria phage T7

<400> 163

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly
 1 5 10

<210> 164

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Identified from non-biological peptide library.

<400> 164

Tyr Gly Gly Phe Leu
1 5

<210> 165

<211> 15

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

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Ile Ser Phe Glu Asn Thr Trp Leu Trp His Pro Gln Phe Ser Ser
1 5 10 15

<210> 166

<211> 5

<212> PRT

<213> Artificial

<220>

<223> Identified from non-biological peptide library.

<400> 166

Thr Pro His Pro Gln
1 5

<210> 167

<211> 5

<212> PRT

<213> Artificial

<220>

<223> Identified from non-biological peptide library.

<400> 167

Met His Pro Met Ala
1 5

<210> 168

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Derived from S-peptide fragment of ribonuclease A protein, proba

bly
from Bos taurus.

<400> 168

Lys	Glu	Thr	Ala	Ala	Ala	Lys	Phe	Glu	Arg	Gln	His	Met	Asp	Ser
1				5					10					15

<210> 169

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Derived from a consensus recognition sequence of cAMP-dependent protein kinase (protein kinase A).

<400> 169

Arg	Arg	Ala	Ser	Val
1			5	

<210> 170

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 170

Val	Thr	Ser	Pro	Asp	Ser	Thr	Thr	Gly	Ala	Met	Ala
1				5					10		

<210> 171

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 171

Ala	Ala	Ser	Pro	Thr	Gln	Ser	Met	Ser	Gln	Ala	Pro
1				5					10		

<210> 172

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 172

Ala Gln Asn Pro Ser Asp Asn Asn Thr His Thr His
 1 5 10

<210> 173
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Identified from M13 bacteriophage peptide display library.

<400> 173
 Ala Ser Ser Ser Arg Ser His Phe Gly Gln Thr Asp
 1 5 10

<210> 174
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Identified from M13 bacteriophage peptide display library.

<400> 174
 Trp Ala His Ala Pro Gln Leu Ala Ser Ser Ser Thr
 1 5 10

<210> 175
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Identified from M13 bacteriophage peptide display library.

<400> 175
 Ala Arg Tyr Asp Leu Ser Ile Pro Ser Ser Glu Ser
 1 5 10

<210> 176
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Identified from M13 bacteriophage peptide display library.

<400> 176
 Thr Pro Pro Arg Pro Ile Gln Tyr Asn His Thr Ser
 1 5 10

<210> 177
 <211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 177

Ser	Ser	Leu	Gln	Leu	Pro	Glu	Asn	Ser	Phe	Pro	His
1				5					10		

<210> 178

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 178

Gly	Thr	Leu	Ala	Asn	Gln	Gln	Ile	Phe	Leu	Ser	Ser
1				5					10		

<210> 179

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 179

His	Gly	Asn	Pro	Leu	Pro	Met	Thr	Pro	Phe	Pro	Gly
1				5					10		

<210> 180

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Identified from M13 bacteriophage peptide display library.

<400> 180

Arg	Leu	Glu	Leu	Ala	Ile	Pro	Leu	Gln	Gly	Ser	Gly
1				5					10		